Collaborative Learning
in a Japanese as a Foreign Language Classroom

Sonomi Iwata-Consul, B.A.

Department of Graduate and Undergraduate
Studies in Education

Submitted in partial fulfillment of
the requirements for the degree of
Master of Education

Faculty of Education, Brock University
St. Catharines, Ontario

© August, 2002
Abstract

This study examined the influence of training on Asian learners' beliefs, interaction, and attitudes during collaborative learning (CL) and explored the processes of their CL in pairs. The literature contains few studies on the effect of collaborative training in language learning. In addition, it shows gaps between SLA theory and practice resulting from learners' cultural differences. Although second/subsequent language acquisition (SLA) theory assumes that CL contributes to language learning, implementing CL in a multicultural classroom is often considered to be unsuccessful by teachers. The research questions designed to address this gap explore: (a) the extent to which training affects Asian learners' attitudes towards and interaction during CL; (b) how Asian learners accomplish collaborative tasks in pairs.

In the quasi-experimental research design, the learners in the treatment group received special training in CL for 5 weeks while the learners in the comparison group did not receive similar training. Data were collected from 45 McMaster University students through pre- and posttests, pre- and postintervention questionnaires, student information, and informal classroom observations. To determine the influence of training, the frequency of communication units (c-units), Language Related Episodes (LREs), Collaborative Dialogue (CD) from audio-taped data, and the final draft scores were compared between pre- and posttests. The learners' pre- and postintervention questionnaires were also compared. Transcripts from audio-taped data, students' information, their responses and comments from questionnaires, and informal observations served to investigate the processes of Asian learners' CL.

Overall, this study found that training had significant influence on the frequency of c-units and CD, and considerable impact on the draft scores, although little influence on
the frequency of LREs was observed. The results from the questionnaires in the treatment group showed positive changes in the learners’ beliefs on pair work after training. On the other hand, analyses of the transcription data showed that the learners did not conduct enough discussion for a resolution of problems with peers.

In conclusion, results suggested the need for teacher intervention, a longer period of collaborative training, and an implementation of self-evaluation into the course grade to encourage the learners to succeed in collaborative learning.
Acknowledgements

The process of researching and completing this thesis could not have happened without the collaboration of many supportive people. I would like to express my utmost appreciation towards them.

First and foremost, I would like to acknowledge Dr. Hedy McGarrell for her significant insights, critiques, and suggestions throughout the proposal, writing, analyses, editing, and preparation for presentation processes of this document. I appreciate her patience and consistent encouragement towards myself, as a non-native speaker of English. With her guidance, I had invaluable experiences such as receiving the Educational Internship Award and presenting research papers at conferences, which served as foundation of my thesis.

I would also like to express my gratitude to Ms. Iwai, the coordinator, and the 45 participants at McMaster University. Ms. Iwai’s generous consideration afforded me the opportunity to explore the participants’ collaborative learning at McMaster University. I sincerely appreciate the participants’ contributions to my research.

I am grateful to Dr. Rosemary Young, the Former Chair, Department of Graduate and Undergraduate Studies in Education, Dr. Kris Kirkwood, and Dr. Coral Mitchell for their helpful suggestions and comments on my work as committee members. Their advice guided the basic framework of my study at the proposal stage as well as fine-tuned my draft at the final stage. Also, I would like to acknowledge Dr. Jane Rubin, the External Examiner and Dr. Patrick O’Neill, the Acting Chair. I gained great insights from their expressed interest, questions, and comments during the oral hearing session.

I offer my great gratitude towards Dr. John Sivell, the Chair, Department of Applied Language Studies, who provided me with an opportunity to conduct my research.
at McMaster University. I appreciate the extensive time you spent on improving my writing skills as well as ethics approach for my proposal during my graduate studies.

I would also express my sincere appreciation to my colleagues and friends, Atsuko, David, Deborah, Eri, Jonathan, Henry, Kyouichi, Miyuki, Patrick, Sachie, and Simon. I thank each of you for your contributions to my thesis as a proofreader, a pilot-tester, a dictogloss text reader on the audio-tapes, a translator, or a rater for the final drafts. Without your cooperation, this study could never have been completed. I also appreciated Ms. Marion Parish’s incredibly fast and seasoned final proofreading work.

I wish to acknowledge receipt of a graduate bursary in 1998 from Brock University. The bursary assisted in supporting the financial burden of carrying out this work and pursuing a master’s degree. Also, I would like to acknowledge receipt of conference funds from Brock University in 2000 that facilitated attendance at a conference in Toronto, where I gained a number of benefits for broadening my knowledge, revising my draft, and preparing for thesis defense.

On a personal note, I would like to thank my parents, Yuji and Setsuko Iwata, and my aunt and her husband, Yasuko and Seizo Sato, who encouraged me to value education and always mentally and financially supported me from Japan. A very special thanks to my husband, Douglas Consul, who was a constant source of understanding and support throughout this three-year endeavor. Also, I should not forget to thank my best friend, Minnie the Yorkie. She always kept her eye on me while I was working on my thesis, and whenever I needed a break, she took me out for a walk to refresh my brain. Finally, I would like to dedicate this work to the memory of my aunt-in-law, Vera Teal. She was a Canadian pioneer teacher in Belleville, Ontario and passed away at the age of 104 in February of 2000.
Table of Contents

Abstract .................................................................................................................. ii
Acknowledgements ............................................................................................... iv
List of Tables .......................................................................................................... ix
List of Figures ......................................................................................................... x
Appendix K (Additional Tables and Figures) ....................................................... xi

CHAPTER ONE: THE PROBLEM ............................................................................. 1
   Introduction ........................................................................................................... 1
   Background to the Problem ................................................................................ 1
   Purpose of the Study ............................................................................................ 3
   Questions to be Answered .................................................................................... 3
   Rationale of the Study .......................................................................................... 4
   Definitions of Terms ............................................................................................ 6
   Scope and Delimitations of the Study .................................................................. 8
   Outline of the Remainder of the Document ....................................................... 9

CHAPTER TWO: REVIEW OF RELATED LITERATURE ........................................ 11
   Organization of the Present Chapter .................................................................. 11
   SLA Theories ....................................................................................................... 12
   Rationale for CL .................................................................................................. 31
   Limitation of CL Advantage .............................................................................. 36
   CL training ........................................................................................................... 46
   Chapter summary ............................................................................................... 51
# CHAPTER THREE: METHODOLOGY AND PROCEDURES

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>53</td>
</tr>
<tr>
<td>Research Design</td>
<td>53</td>
</tr>
<tr>
<td>Site and Participant Selection</td>
<td>56</td>
</tr>
<tr>
<td>Course Descriptions</td>
<td>58</td>
</tr>
<tr>
<td>Procedure of Data Collection</td>
<td>58</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>67</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>70</td>
</tr>
<tr>
<td>Ethical Considerations</td>
<td>75</td>
</tr>
<tr>
<td>Methodological Assumptions and Limitations</td>
<td>76</td>
</tr>
</tbody>
</table>

# CHAPTER FOUR: FINDINGS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>79</td>
</tr>
<tr>
<td>Influence of Training</td>
<td>79</td>
</tr>
<tr>
<td>Asian Learners’ CL in Pairs</td>
<td>98</td>
</tr>
<tr>
<td>Chapter Summary</td>
<td>121</td>
</tr>
</tbody>
</table>

# CHAPTER FIVE: SUMMARY, DISCUSSION, AND IMPLICATIONS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>127</td>
</tr>
<tr>
<td>Summary</td>
<td>128</td>
</tr>
<tr>
<td>Discussion</td>
<td>130</td>
</tr>
<tr>
<td>Implications</td>
<td>138</td>
</tr>
<tr>
<td>Chapter Summary</td>
<td>153</td>
</tr>
<tr>
<td>Final Thoughts</td>
<td>154</td>
</tr>
<tr>
<td>References</td>
<td>156</td>
</tr>
<tr>
<td>Appendix A:</td>
<td>Definitions for Conversational Adjustment</td>
</tr>
<tr>
<td>Appendix B:</td>
<td>Speech Production Measurements</td>
</tr>
<tr>
<td>Appendix C:</td>
<td>Ethics</td>
</tr>
<tr>
<td>Appendix D:</td>
<td>The Collaboration Questionnaires</td>
</tr>
<tr>
<td>Appendix E:</td>
<td>Procedure of Dictogloss</td>
</tr>
<tr>
<td>Appendix F:</td>
<td>Japanese Grammatical Features</td>
</tr>
<tr>
<td>Appendix G:</td>
<td>Collaborative Training with Practice (Task)</td>
</tr>
<tr>
<td>Appendix H:</td>
<td>Frequency of C-Units, LREs &amp; CD</td>
</tr>
<tr>
<td>Appendix I:</td>
<td>Final Draft Rating Scale</td>
</tr>
<tr>
<td>Appendix J:</td>
<td>Glossary of Terms</td>
</tr>
<tr>
<td>Appendix K:</td>
<td>Additional Tables and Figures</td>
</tr>
</tbody>
</table>
List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Research Design</td>
<td>54</td>
</tr>
<tr>
<td>2: Procedure of Data Collection</td>
<td>59</td>
</tr>
<tr>
<td>3: Learner’s L1, Proficiency, and Group Work Familiarity</td>
<td>81</td>
</tr>
<tr>
<td>4: “Knowledge Transmission” Group and “Learning from Each other” Group</td>
<td>117</td>
</tr>
<tr>
<td>5: Summary of Findings</td>
<td>122</td>
</tr>
</tbody>
</table>
## List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:</td>
<td>Output and Second Language Learning</td>
<td>17</td>
</tr>
<tr>
<td>2:</td>
<td>Asian Learners' Output and FL Learning</td>
<td>134</td>
</tr>
</tbody>
</table>
### Appendix K

**Additional Tables and Figures**

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6: Raw Data in Pairs for Pre- and Posttests</td>
<td>204</td>
</tr>
<tr>
<td>7: Descriptive Statistics of C-Units and t Values between</td>
<td>205</td>
</tr>
<tr>
<td>Pre- and Posttests for TG and CG</td>
<td></td>
</tr>
<tr>
<td>8: Changes in No. of C-Units between TG and CG</td>
<td>206</td>
</tr>
<tr>
<td>9: Descriptive Statistics of LREs and t Values between</td>
<td>207</td>
</tr>
<tr>
<td>Pre- and Posttests for TG and CG</td>
<td></td>
</tr>
<tr>
<td>10: Changes in Frequency of LREs between TG and CG</td>
<td>208</td>
</tr>
<tr>
<td>11: Descriptive Statistics of CD and t Values between</td>
<td>209</td>
</tr>
<tr>
<td>Pre- and Posttests for TG and CG</td>
<td></td>
</tr>
<tr>
<td>12: Changes in Frequency of CD between TG and CG</td>
<td>210</td>
</tr>
<tr>
<td>13: Final Draft Score for Pre/Post Test</td>
<td>211</td>
</tr>
<tr>
<td>14: Changes in Draft Scores and C-Units between</td>
<td>212</td>
</tr>
<tr>
<td>Pre- and Posttests for TG and CG</td>
<td></td>
</tr>
<tr>
<td>15: Descriptive Statistics of Final Draft Scores for Pre- and Posttests</td>
<td>213</td>
</tr>
<tr>
<td>16: Changes in Final Draft Scores between TG and CG</td>
<td>214</td>
</tr>
<tr>
<td>17: Ranking of Preference on Choosing Partner</td>
<td>215</td>
</tr>
<tr>
<td>Difficulty of Pair Work, and Preference in Groupings</td>
<td></td>
</tr>
<tr>
<td>18: Learner’s Response to Part II in Questionnaires</td>
<td>216</td>
</tr>
<tr>
<td>19: Comments on Pair Work from 45 students</td>
<td>217</td>
</tr>
<tr>
<td>20: Comments on Pair Work from 24 students</td>
<td>221</td>
</tr>
<tr>
<td>21: Balance of Number of C-Units and CD in Pairs</td>
<td>222</td>
</tr>
</tbody>
</table>
Figure

3: Learners’ Attitudes, Beliefs, and Preferences on Pair Work.......................... 223

4: Learner’s Response to Part II in Questionnaires................................. 228
CHAPTER ONE: THE PROBLEM

Introduction

This study examined the effects of collaborative training and explored the processes of Asian learners’ collaborative learning (CL) in a Japanese as a Foreign Language (JFL) classroom. Previous research studies have demonstrated that Second/Subsequent Language Acquisition (SLA) theory, which is derived from Western educational values, assumes that the opportunity for students to engage in CL might contribute in developing complex thinking (e.g., problem solving skills). CL among Asian students, however, is often considered unsuccessful due to their different educational experiences in which they generally have lesser opportunity to engage in CL than Western students. Recently, researchers and educators have argued that collaborative training for Foreign Language (FL) learners might offer a solution to deal with the learners’ collaboration problems. This study was undertaken to investigate the influence of training on Asian learners’ attitudes towards and interaction during collaborative learning and to develop an understanding of Asian learners’ collaborative learning in pairs.

Background to the Problem

SLA theories argue that when the students interact with each other, they are actively involved in the negotiation of comprehensible input (Long, 1981) and the formulation of comprehensible output (Swain, 1985). In addition, Swain and Lapkin (1998) incorporated the Vygotskian theory into SLA and suggested that learner-learner collaboration accomplished a task with higher comprehensibility than they could attain individually. It is widely assumed in SLA theory that a maximal amount of opportunities
ILLUSTRATED MAP

INTRODUCTION

The illustrated map is a visual representation of the geographical features and historical events that have shaped the area. It includes various symbols and labels to enhance understanding and provide context. The map is designed to be a teaching tool for students and researchers alike, offering a comprehensive view of the region.

The map covers a broad range of topics, from natural landscapes to cultural landmarks. It is color-coded to distinguish between different types of geographical features, such as mountains, rivers, and cities. The historical timeline is integrated into the map, highlighting key events that have influenced the area's development.

In the following sections, we will explore the detailed elements of the map, including its legend, annotations, and additional resources that can be used for further study. The interactive nature of the map allows users to zoom in and out, and select different layers to explore specific aspects of the region.

To enhance the learning experience, the map is accompanied by a detailed legend that explains the symbols used. This will help users to understand the data presented and make informed conclusions. Additionally, there are several key points that are marked on the map, each with a brief description of its significance.

In conclusion, the illustrated map is a valuable resource for anyone interested in the region's geography and history. Its comprehensive approach and interactive features make it an engaging tool for education and research.

For those who wish to delve deeper, the map is designed to be a starting point for further exploration. By using the provided resources and tools, users can uncover new insights and expand their knowledge of the area.
for input and output through learners' collaboration provides optimal conditions for language acquisition. Coincidentally, the advantage of CL meets with the learners' expressed desire to have more opportunities for speaking and listening (Conrad, 1999; Harlow & Muyskens, 1994; Knowles, 1993, as cited in Conrad, 1999; Littlewood, Liu, & Yu, 1996).

Despite the number of positive relationships between CL and SLA, some research has suggested that the stated advantages of CL do not take into consideration broader social factors. Since Asian learners' educational background and cultural traditions (e.g., Confucian precepts) instill a high respect for the role of teachers and the value of silence, they have been observed to be reluctant to speak during group work. They may have the perception that group work is not an important segment of classroom activity and learning when compared to the traditional lecture. In addition, implementing CL in an Asian cultural setting is often considered unsuccessful due to these students' preference to work independently and to expect feedback from the teacher rather than their peers. If this is the case, it affects both theory and practice. If it remains difficult to encourage Asian students to produce output, and Asian students do not interact with each other effectively during group work, benefits of CL as projected by SLA theory are likely to be limited. Consequentially, cultural differences might be a plausible factor that affects the way in which learners acquire the target language (TL) if these students cannot be trained to interact with each other.

Recently, more researchers and educators have proposed that the most promising solution to deal with collaboration problems is to provide students with collaborative training to effectively engage in the activity. Bejarano, Levine, Olshtain, & Steiner (1997) argued that one way to improve the quality of communicative interaction in the
classroom would be to increase the students' use of Modified-Interaction and Social-Interaction Strategies. They found that training in such strategies improved the interaction in small groups. However, there has been minimal attention given to the notion of collaborative training for students who have not been exposed to the concept in their previous educational experiences and cultural traditions.

**Purpose of the Study**

The purpose of this study was to investigate the effects of collaborative training for Asian learners, and the processes of Asian learners' CL in pairs. The gaps between theory and practice resulting from learners' cultural differences could possibly influence the quality of a FL education. By investigating previously existing major theories related to CL with Asian learners, this study might contribute to bridging the gap between theory and practice. It may provide useful information for future research which involves multicultural classrooms in ESL or EFL education. On the other hand, JFL education is known as far behind ESL/EFL education in terms of the application of Western methodology into practice. By succeeding in this investigation, this study could improve the curriculum design and delivery of JFL courses.

**Questions to be Answered**

Two primary questions were examined in this study: (a) to what extent does training affect Asian learners' attitudes towards and interaction during CL? and (b) how do Asian learners accomplish collaborative tasks in pairs? These substantial questions are separated into smaller and more manageable research questions that provide the
framework for this study. These questions guided the selection of data collection and analysis techniques (see Research Design), as well as the presentation of the findings.

1. To what extent does training with practice affect Asian learners' attitudes towards and interaction during CL?
   (a) To what extent does training influence the quantity of language production?
   (b) To what extent does training influence the frequency of Language Related Episodes (LREs) in pairs?
   (c) To what extent does training influence the frequency of Collaborative Dialogue (CD)?
   (d) How does training affect the quality of the final drafts?
   (e) Does training affect learners' attitudes, beliefs, or preferences on pair work?

2. How do Asian learners accomplish collaborative tasks in pairs?
   (a) To what extent are the claimed benefits of the Output Hypothesis valid for Asian learners? More precisely, to what extent do they practise the TL, notice a gap, and test hypotheses while engaging in form-focused tasks in pairs?
   (b) To what extent do Asian learners develop higher cognitive functions during CL? What are the possible factors that might influence it?
   (c) How do they perceive pair work?

Rationale of the Study

As discussed in the background of the problem, the current understanding of CL is largely based on Western educational values. Although SLA theory assumes that CL contributes to developing learners' higher cognitive functions, implementing CL in an Asian cultural setting is often accounted to be unsuccessful. In the field of SLA, the
influences of the learners’ cultural background relating to the process of language learning have not yet been ascertained. As a result, the gaps between theory and practice resulting from cultural differences could possibly influence the quality of a FL education. This study set out to change this state of affairs by bridging the gaps between theory and practice. Through the development of research-based theory, this study attempted to extend current assumptions in SLA.

Furthermore, this study could be a practical indication of how to develop undergraduate curricula for a JFL program that considers cultural differences among learners. Lately, the number of Asian students who have enrolled in Canadian universities has been constantly increasing. For instance, according to one survey by Statistics Canada (2000), the number of Asian students in Canadian universities had grown from 7,769 (1996-1997) to 8,257 (1998-1999). Many Asian learners are eager to learn Japanese in Canada (e.g., 86% of the 196 students enrolled in the first-year Japanese Program at McMaster University in 1999 were Asians), because it will be a great asset to them in order to achieve a job at the Japanese-affiliated companies that offer higher salaries than the local firms in their home country. Therefore, in order to design a curriculum that fills in the gaps between Western and Asian educational differences alongside the differences in social culture, these new pedagogical insights and applications (i.e., how to develop CL training, activities, and assessment for Asian learners) offered by this study could have important implications for improving a JFL program at higher education in Canada.

Moreover, there is a lack of relevant research regarding the effect of collaborative training in FL education. Consequently, results of this study could be used as a
foundation not only for a JFL, but also for other multicultural classrooms such as ESL (English as a Subsequent Language) or EFL (English as a Foreign Language).

Finally, this study provides insight into the research process of a Brock University M.Ed. thesis for future M.Ed. thesis students and other readers.

Definitions of Terms

A number of conceptual definitions are used in this document that are either specific to this study or to the field of SLA (See Glossary of Terms in Appendix J for operational definitions). These terms are defined here for clarity.

Acquisition: refers to some sort of change in the organism resulting from its interaction with the environment. The change can be of greater or lesser permanence, but the use of the term does presuppose a minimum degree of stability (Gregg, 1989, p. 16). Some researchers believe that acquisition and learning are separate phenomena. For instance, Krashen (1981) stated that while acquisition is the unconscious internalization of knowledge, learning is the conscious application of explicit rules. In this study, however, the use of “acquisition” and “learning” alternatively is deliberate, and the terms are used interchangeably.

Collaborative Learning (CL): Definitions for CL vary by researcher. Among them, definitions of CL are concisely yet completely summarized by Consul and McGarrell (2002) in that

CL is a philosophy and a technique that involves mutual learning in groups with two or more participants. It is based on the idea that humans learn through social interaction and that learning improves when it is more like a team effort than a solo race. Through discussions generated in CL, individual’s ideas and responses
to others' improve thinking and deepen understanding. (p. 2)

From more operational perspectives, C. Lee, and Jacobs (2001) define CL as "concepts and strategies for enhancing the value of student-student interaction" (p. 1). Oxford (1997) attempted to distinguish CL, Cooperative Learning, and interaction as follows:

CL has a "social constructivist" philosophical base, which views learning as construction of knowledge within a social context and which therefore encourages acculturation of individuals into a learning community; Cooperative Learning refers to a particular set of classroom techniques that foster learner interdependence as a route to cognitive and social development; Interaction is the broadest of the three terms and refers to personal communication, which is facilitated by an understanding of four elements such as language tasks, willingness to communicate, style differences, and group dynamics. (p. 443).

However, the clear definitions for these terms have not yet been established, and in SLA research, these three terms are often used interchangeably. The term "collaborative" rather than "cooperative" is used in this study as a general term to refer to learners' interactions during group work situations in order to avoid confusion with other specific approaches to group work.

Interlanguage: the systematic nature of the learner's linguistic development between the two languages (e.g., L1 and TL; Selinker, 1972). A capability continuum that is the learner's competence consists of variable rules which account for the systematic way in which certain variants of a rule are used in formal/careful language use and other variants in informal/vernacular language use (Tarone, 1983).

Interaction: any instance in which "students achieve facility in using a language" by "conveying and receiving authentic messages" (Rivers, 1987, p. 4). Interaction refers to
personal communication, which is facilitated by an understanding of four elements: (a) types of language tasks, (b) learners’ willingness to communicate with each other, (c) learning style dimensions, and (d) group dynamics (Oxford, 1997, p. 449).

**Second Language Acquisition (SLA):** is a relatively recent field of inquiry. According to Huebner (1998), a milestone date for its inception is 1967, with the publication of S. Pit Corder’s “The significance of learners’ Errors.” In that article, Corder states what has since become axiomatic in second language acquisition research: Learners, in the process of learning a second language, create a system consisting of elements from both the target language and the native language, but also of elements that cannot be traced to either. At the time, Corder referred to this concept as the learners’ “transitional competence.” Subsequently, “transitional competence” has been referred to as the learner’s “approximative system” (Nemser, 1971), “idiosyncratic dialect” (Corder, 1971), and “interlanguage” (Selinker, 1972). It is the last term which has found the most common usage. One can frame all SLA research in terms of the nature and extent of interlanguage systematicity (Huebner, 1998, p. 62).

**Scope and Delimitations of the Study**

This study was exploratory in nature and therefore had certain limitations. (See the Methodological Assumptions and Limitations section in the Methodology Chapter for the limitations of this study as related to methodology.)

First of all, most participants in this research were foreign language students; consequently, their linguistic competency might have imposed limitations when it came to understanding training and practice. In order to avoid the students’ misunderstanding of the language during training and practice sessions, the researcher was careful to
observe each learner’s behaviour in class. As soon as problems arose, the researcher came to the individual student to offer further assistance.

Another potential limitation was small sample size. Results might have been a more reliable to generalize from larger sample size. As this study was conducted under the supervision of the coordinator of the Japanese program at McMaster University, the researcher was not in a position that would allow control over the number of subjects. However, in spite of the small sample size, this study should be a progressive investigation for SLA research, because it provides data analysis from multidimensional aspects of interaction features such as LREs and CD as well as a close examination of individual learners’ attitudes towards pair work.

**Outline of the Remainder of the Document**

The remaining four chapters of this document will serve a number of functions, including critiquing the related literature, illustrating the study’s methodology and procedures, presenting the results of the study, and discussing the study’s implications. This section will explain in more detail what is contained in each of the remaining chapters.

Chapter Two demonstrates extensive literature review which relates to the topic of this study. It provides a basic background of theoretical perspectives in SLA, a summary of classroom research on CL, and identifies contradictions in the existing literature. The chapter concludes with discussions about implementing training in the JFL classroom.

Chapter Three explicitly outlines the methodology and procedures used in the study in order to enable replication for future studies. This study’s research design, site and participant selection, course descriptions, procedure of data collection,
instrumentation, and data analysis are described. Finally, assumptions and limitations of the study are delineated.

Chapter Four presents an overview and a summary of the findings of the study, both statistically and descriptively. The chapter is organized according to the research questions which are addressed in Chapter One.

Chapter Five begins with a summary of the first four chapters and then outlines the implications of the study. The chapter discusses the existing SLA theory and larger theoretical issues. Based on the results of the study, suggestions for enhancing practice and facilitating further research are provided. The document ends with some final thoughts on the study.
Organization of the Present Chapter

The purpose of this chapter is to provide the overall framework based on the research questions for this study. Literature was reviewed in four phases. First, it was necessary to begin with a brief introduction of interactionist theories (i.e., Input Hypothesis, Interaction Hypothesis, and Output Hypothesis) in order to present the basic background of theoretical perspectives for Collaborative Learning (CL) in Second Language Acquisition (SLA) theory. Then, a review was made of how SLA theory developed the concept of CL from sociocultural theory, which is represented by the Vygotskian perspective.

The second phase of the literature review involved the theoretical justification of CL. A summary of pedagogical and social advantages of CL in FL classroom research was followed by current learners’ needs analyses, which examined if benefits of CL meet with learners’ needs.

In the third phase, the literature review shed light on the limited advantage of CL, focusing on problems that Asian learners encounter during CL activities due to the different educational environment from what they experienced in their home country. This phase contained various researchers’ views on the Asian learners’ attitudes towards CL activities in a language classroom.

The fourth and final phase of the literature review involved studies which suggest a proposed solution (i.e., CL training) in order to solve Asian learners’ collaboration problems. This phase ends with discussions about implementing training in the JFL classroom.
SLA Theories

Interactionist Theories

Researchers interested in the relationship between classroom interaction and second language acquisition have proposed various hypotheses which acknowledge that both learner input and output shape language learning experiences available to second language (L2) learners (R. Ellis, 1990). Ellis suggested that interaction contributes to SLA in two ways: “(a) via the learner’s reception and comprehension of the L2 (reception-based theories); (b) via the learner’s attempts to produce samples of the L2 (production-based theories)” (p. 95). In the 1980s, the most prominent reception-based theories were developed by Krashen (1981, 1982, 1985) and Long (1981, 1983, 1985) to describe how classroom interaction might contribute to SLA. At the same time, production-based theories were advanced by Swain (1985).

Input Hypothesis

Krashen (1981, 1985) proposed the Input Hypothesis; that is, humans acquire language in only one way—by understanding messages, or by receiving “comprehensible input.” He argued that actual two-way interaction is not necessary for language acquisition (1985). According to Krashen (1985), “the tremendous success of Canadian immersion language programs provides additional evidence for the Input Hypothesis” (p. 16). Krashen (1985) stressed that immersion programs provide students with a great deal of comprehensible input. He described optimal input as being first and foremost comprehensible, that is, focused on meaning, not form. In other words, he indicated that learners acquire structure by understanding messages and not focusing on the form of input, by going for the meaning (1985).
Many published critiques of Krashen’s Input Hypothesis are found in the established literature. Most of them complain that his theory is more interpretative than empirically grounded and represents only a partial description of the processes involved in SLA (Johnson, 1996).

**Interaction Hypothesis**

Another prominent reception-based theory, the Interaction Hypothesis proposed by Long (1981, 1983, 1985), emphasizes the critical role of comprehensible input in the form of conversational adjustments (see Appendix A). That is, the more adjustments speakers make in their attempts to communicate, the greater the opportunities for SLA. Long places more emphasis on the interaction that takes place in two-way communication and the adjustments made as a result of the negotiation of meaning. For instance, when the learners encounter linguistic problems (i.e., difficulties in encoding or decoding messages), they negotiate for meaning in order to achieve message comprehensibility. As they negotiate for meaning, they modify their interaction by using conversational adjustments. Long suggests that in this way meaningful communication takes place, and it helps learners to develop their interlanguage systems (Long, 1981, 1983, 1985), which is assumed to be a process of SLA.

A number of empirical studies based on Long’s proposal for Interaction Hypothesis explored the way learners negotiate for meaning.

**Negative aspects of negotiation of meaning.** While a number of positive roles for negotiation of meaning have been reported, Aston (1986) and Foster (1998) have argued that a controversy exists within the current research of negotiation of meaning.
Aston (1986) questioned the notion that maximal negotiation of meaning provides optimal conditions for comprehensible input. He argued that such interactions could be frustrating for learners, and therefore pedagogically undesirable. Further, he criticized the methodology and coding of the procedures to measure the frequency of negotiation as inappropriate. For example, he pointed out that Varonis and Gass (1985) examined the first 5 minutes of dyadic encounters in the laboratory setting, and hence focused on the conversational preliminaries that generally precede discussion on the specific topic of the task to be performed. As for the coding of the procedures, he indicated that the categories of conversational adjustments (see Appendix A) used by these studies (e.g., Long, 1983) were partly overlapped. For instance, he claimed that a confirmation check could possibly be coded as other-repetition, and it was not clear as to which of the two categories it belonged to and why. Furthermore, Aston suggested that it would be necessary for learners to develop strategies for establishing and maintaining social collaboration rather than just obtaining comprehensible input through negotiation for meaning. Thereby, both the learners and teacher could evaluate the progress of the capacity to use the TL for socially relevant situations as well as the lexico-grammatical items acquired.

There would also be the likelihood that such research might have overemphasized the empirical importance of negotiation of meaning (Foster, 1998). She investigated "what the student in the classroom does" with the negotiation of meaning. She has found many fewer incidences of negotiation of meaning and modification of output in her data. She suggested that learners employed a different communication strategy when confronting a gap in understanding; they may have pretended to understand and hoped a future utterance would cast light on their problems of understanding their peer's
utterances. Foster has also argued that the laboratory research environment could have influenced the learners to be more conscious, which would result in better performances for tasks than in the classroom environment, where pressures on task performance are relatively restricted. Hence, Foster demonstrated that there was less importance of the role for negotiation for meaning in terms of generating learners' output. She suggested that learners might produce more language when engaging with tasks focused on the form, like the one that Swain used. Kowal and Swain (1994) noted that because most tasks used in research are "communicative" in design and focus upon meaning rather than form, they do not encourage students to reflect openly on the language they are producing.

Swain (1985) argued that the negotiation of meaning is not sufficient to develop grammatical knowledge and sociolinguistically appropriate language, because learners may comprehend the message by guessing meanings of words, which could be inaccurate, through negotiation of meaning. In other words, they do not need accuracy when receiving comprehensible input, which focuses on meaning and not on form. However, when learners want to convey messages by speaking, they need to have grammatical accuracy as well as sociolinguistic knowledge. Thus, they do learn grammatical accuracy or sociolinguistical appropriateness by incorporating a practice of negotiation for form (i.e., producing comprehensible output), but not solely by negotiation of meaning.

Output Hypothesis

Swain (1985) advanced production-based theories. She proposed a comprehensible output hypothesis that language acquisition might occur through producing language. Unlike Krashen (1982, 1985), who denied the active role of language production in SLA, Swain emphasized that comprehensible input is insufficient
to the language acquisition process unless it is matched by an obligation on the part of the learners to produce comprehensible output. Furthermore, she suggested that negotiating meaning needs to incorporate the negotiating of form in order to deliver a message precisely, coherently, and appropriately.

Swain (1985) argued against Krashen’s (1985) view on the success of Canadian immersion language programs. Based on her findings from studies on immersion students in Canada, she revealed that after 7 years of this comprehensible input, they had not achieved the same proficiency in speaking and writing as native speakers. She argued that this was not because their comprehensible input was limited, but because (a) they were not given adequate opportunities to use the target language in the classroom context; and (b) they were not under pressure to produce the TL (Swain, 1985). Swain (1985, 1993; Kowal & Swain, 1994; Swain & Lapkin, 1995) hypothesized that roles for output are relevant to L2 learning. She summarized the roles as: (a) a practicing function; (b) a “noticing a gap” function or “consciousness raising role”; and (c) a hypothesis-testing function, or a reprocessing function by feedback.

Figure 1 illustrates second language learning through processes of each role of output. Swain and Lapkin (1995) described the illustration as follows. As a result of necessity to communicate in the TL, learners “notice” a problem. When they “notice” a problem with internal or external feedback, they conduct an analysis that is the generation of alternatives and assessment, through simple inspection to complex thinking. When they find a solution, the analysis leads to modified output. When learners fail to find a solution, they may search for relevant input with a more focused attention. As a result, learners may work out reprocessed output. They suggested that the process between the first and second output is part of the process of second language learning.
Figure 1. Output and second language learning

Each role of comprehensible output proposed by Swain (1985) was supported through her research (e.g., Kowal & Swain, 1994; Swain, 1985, 1993; Swain & Lapkin, 1995) as well as by many researchers (e.g., Haneda, 1996; Nobuyoshi & Ellis, 1993; Pica, Holliday, Lewis, & Morgenthaler, 1989). The following section describe each role more in detail with supporting studies.

Roles for Comprehensible Output

**Practicing function.** Swain (1985) argued that language production provides the opportunity for meaningful practice of one's linguistic resources, permitting the development of fluency in their use. Kowal and Swain (1994) emphasized that tasks, which frequently involve learners to produce accurate language output, should help the learners to reflect on the grammar of their TL as a way of expressing their meanings. For example, when practising the TL through collaborative tasks that focus on form, learners' talk may contribute to raising their awareness of forms, rules, and their relationship to the meaning they are trying to express. Swain claimed that the negotiation of meaning is not sufficient to develop grammatical knowledge and sociolinguistically appropriate language, because learners may comprehend the message by guessing meanings of words, which could be inaccurate. In other words, they do not need accuracy when receiving comprehensible input, which focuses on meaning and not on form. However, when learners want to convey messages by speaking, they need to have grammatical accuracy as well as sociolinguistic knowledge. Thus, they do learn grammatical accuracy or sociolinguistical appropriateness by incorporating a practice of negotiation for form, but not solely by negotiation of meaning.
“Noticing a gap” function by feedback. Kowal and Swain (1994) and Swain and Lapkin (1995) argued that when producing the TL, learners would sometimes come to know what they previously did not know. In attempting to produce the TL, they may “notice the gap” between what they wish to say and what they are able to say. This gap may not be noticed in comprehension (e.g., listening), because “in many cases, we do not utilize syntax in understanding – we often get the message with a combination of vocabulary, or lexical information plus extra linguistic information” (Krashen, 1982, p. 66). In other words, the function of output may prompt learners to consciously recognize some of their linguistic problems. It may bring to their attention something they need to discover about their L2, possibly directing their attention to relevant input. It may trigger cognitive processes, which might generate linguistic knowledge that is new for the learner, or consolidate the learner’s existing knowledge (Swain & Lapkin, 1995).

Output allows the learners to control the agenda and to take risks and look for feedback on the points of uncertainty in developing grammar, and when external feedback was available, learners also modified, or reprocessed their output (Swain 1985; 1993). Swain (1993) suggested that feedback may generate responses from speakers of the language that can provide learners with information about the comprehensibility or well-formedness of their utterances. In addition, responses may take the form of confirmation checks, clarification requests, or implicit and explicit corrections. For example, Pica et al. (1989) investigated what learners do linguistically when “pushed” to modify their output by feedback. They found that, in response to clarification and confirmation requests, more than one third of the learners’ utterances were modified either semantically or morphosyntactically.
Nobuyoshi and Ellis (1993) attempted to investigate that teacher feedback consolidated accuracy. More precisely, one of their study purposes was to find out how teacher feedback can obligate learners to produce more accurate output. Six Japanese students performed the same task twice, one week apart. On the first occasion, the experimental group received requests for clarification every time they produced an incorrect verb form. On the second occasion, however, they received only general requests for clarification. The subjects in the comparison group received general requests for clarification, but no requests for clarification when producing an utterance containing an incorrectly marked verb. From their results, Nobuyoshi and Ellis suggested that when the teacher pushed learners with feedback in the direction of greater accuracy in their production, learners were able not only to self-repair, but also to achieve a higher accuracy level in their output.

**Hypothesis-testing function.** Swain (1998) suggested that through cognitive processes (e.g., hypothesis formulation and testing), producing language may serve the language learning process. Even though immediate external feedback may not always be available, learners can test their hypotheses against their own internalized knowledge. When learners are able to obtain useful information for testing their hypotheses from other sources, they modify or reprocess their output (Swain). “Thus, learners may use their output as a way of trying out new language forms and structures as they stretch their interlanguage systems to meet communicative needs; they may use output just to see what works and what does not” (p. 68).

The previous arguments by Swain (1985) and other researchers for the roles of output suggested that modified output is likely to help learners develop their
interlanguage systems. Comprehensible input solely is insufficient to the language acquisition process without comprehensible output. Swain shed light on promoting grammatical accuracy with comprehensible output in order to acquire the language, rather than just understanding meaning of messages with comprehensible input. Foster (1998) suggested that learners might produce more language when engaging with tasks focused on the form rather than meaning. The next section describes what Swain's supporters sought for—by what means it would be possible to promote learners' language output in the FL classroom.

Promoting Learners' Output

There are numerous discussions on the influence of task-based approaches and groupings for increasing learners' output. Some SLA researchers attempted to determine the effects of task type and participation pattern on interaction in the language classroom. On the other hand, other researchers argued that increasing the frequency of learner-learner interaction does not automatically promote the SL production. The quality of interaction may play a more important role for promoting their output than the frequency of interaction.

Task Types and Groupings

Doughty and Pica (1986) attempted to determine the effects of task type and participation pattern on language classroom interaction. They compared two task types (optional and required information exchange tasks) across teacher-directed, small group, and dyad interactional patterns. In required information exchange tasks, the learners required information exchanges for their task completion as they shared individually held
information. In optional information exchange tasks, all learners were provided the same information. The subjects were adult students and teachers from three intermediate ESL classes (class size ranged from 11 to 15). Their results showed that an obligation for information exchange is crucial to the generation of conversational modification of classroom interaction. As for effective grouping for promoting learners’ output, Doughty and Pica suggested that dyads provided the most appropriate grouping for the L2 classroom; dyads increased opportunities for negotiation and its consequent impact on learners’ comprehension, as well as opportunities to receive feedback and to modify output.

A subsequent study by Pica, Kanagy, and Falodun (1993), who taxonomized communication task types, also found that opportunities for negotiation were more likely to occur under task conditions in which learners were pushed to exchange information (i.e., jigsaw and information gap).

Meanwhile, Foster (1998) partially replicated Doughty and Pica’s (1986) study to examine whether task type (optional or required information exchange) and participant structure (dyad or small group) could affect the amount of language and modified interaction individual students produced. Foster used the communication-units (c-units) to code the transcripts (see Appendix B for more detail on c-units). She described that the c-unit is one of the two measures for speech production most widely used in previous studies. Her participants were 21 intermediate EFL students who came from a wide variety of L1 backgrounds (e.g., Korean, Spanish, Arabic, French) with an average age of 21. She conducted her study within a classroom setting as opposed to a laboratory setting, to provide students natural environment rather than give them pressures on task performance. Four tasks were selected: two were done by the students working in dyads,
and two by the students working in small groups of four or five. Two of the tasks were described as required information exchange tasks in which the learners were required to make information exchanges for their completion as they shared individually held information. The other two were described as optional information exchange tasks, in which all learners were provided the same information. Her results indicated that the dyad set-up initiated students to talk more, regardless of task type. While many students in the small groups did not speak at all, it appeared to be difficult for students in pairs to remain silent.

Walz (1996) suggested the use of information gap activity (IGA) in order to promote student-student communication in the FL classroom. According to Walz, the gap refers to the fact that all people possess information unknown to others and that when a need arises to overcome the gap, communication takes place. Walz emphasized that "because IGAs require interaction and are context-specific as no other small-group work is, they are essential components in classes taught by teachers interested in developing students' proficiency" (pp. 488-489). Moreover, he indicated that IGAs can be created according to the teacher's needs. For example, if the teacher is concerned with formal grammar and linguistic accuracy, s/he can create an activity by controlling the language needed to find specific information.

Kowal and Swain (1994) investigated the learner's process of acquiring the L2 while constructing a collaborative task in a French immersion class. Nineteen students from a grade 8 immersion class participated in the study. Kowal and Swain showed that since most tasks used in research are "communicative" in design and focus upon meaning rather than form, they do not encourage students to reflect openly on the language they are producing. As a way to promote students' language production which reflects upon
its structure (i.e., form), Kowal and Swain suggested the dictogloss (form-focused task) technique developed by Wajnryb (1990).

Dictogloss originates from traditional dictation, but its procedure and objectives are quite different from the origin. In dictogloss, a short text is read at normal speed to learners who write down familiar words as they listen. In small groups, students then pool their resources to reconstruct their version of the original text by using their grammatical knowledge. In the final stage, the various versions that the students have produced are subjected to close analysis and comparison. Through both the task of reconstruction and error analysis, learners refine their understanding of the language, specifically the grammar, that they have used. In order to investigate learners’ output during dictogloss activities, Kowal and Swain (1994) identified critical language-related episodes (LREs) (see Appendix B for more detail) from all of the transcribed data; and classified these into three categories: (a) meaning-based episodes (in which the focus of discussion was on meaning); (b) grammatical episodes (in which the focus of discussion was on form); and (c) orthographic episodes (in which the focus of discussion was on orthographic accuracy). The data illustrated that dictogloss successfully encouraged students to think about the form of the message they were constructing (i.e., noticing a gap). The students also willingly collaborated with one another to construct meaningful, grammatically correct messages, thereby consolidating and refining their knowledge of the French grammatical system.

Kowal and Swain (1994) found that in the more homogenous pairs (e.g., the same proficiency pairs), the contributions of members were more balanced when they solved problems:

Both members contributed to the discussion. The role of “teacher” alternated
between students, both highlighted points for discussion and both assumed the responsibility for finding the answer to their questions. Students alternately built on each other's comments to refine the intended message and to improve the accuracy of how they were going to say it. (p. 87)

Based on their data analysis from the low-low proficiency group, they suggested that some degree of heterogeneity might have been more beneficial for these students.

Meanwhile, Iwashita (2000) examined the impact of learner proficiency on opportunities for modified output in learner-learner interaction in a JFL. A group of 24 subjects who enrolled in the fourth semester Japanese course at an Australian university were divided into three subgroups (i.e., low-low, high-high, and high-low) with two proficiency levels (i.e., high and low). Her results showed no significant difference in interaction between the same and different proficiency groups, although mixed-level dyads provided more interactional moves than same-level dyads. She interpreted the absence of significant difference as due to a small difference in proficiency between high (i.e., more than 85% on average with more exposure to the TL previously) and low level (i.e., 70% on average with less exposure to the TL previously) subjects, and also due to some individual differences.

Haneda (1996) replicated Kowal and Swain's (1994) study with 8 adult early intermediate learners in a JFL classroom. She found that two pairs carried out the task in very different manners. Although Luke and Jane were very interactive individuals in class, they exchanged only 48 turns, while Alan and Gila exchanged 188 turns. When she interviewed Luke and Jane, they said that they were not familiar with one another and did not know what to expect from the other. In the case of Alan and Gila, Gila's high language proficiency might have helped to a certain extent, but Alan carried out the task
in very different manners depending on his partners. When Alan was paired with Simon, he talked very little, but when he was paired with Gila, he was very interactive. Haneda interviewed Alan to discover possible reasons for such variability in pair interaction. According to Alan, Simon was very quiet, while Gila was very interactive and gave him feedback on grammar. Although results were from very small sample size, her study was noteworthy to demonstrate that the learner’s interaction may change due to interlocutor familiarity and groupings, that is, interpersonal factors.

Lam and Wong (2000) suggested that the quality—effectiveness of strategy use—is a more important part in bringing about effective communication than the frequency of strategy use. In their study, the learners with limited linguistic proficiency were found to be encouraged and pushed to try clarification strategies (i.e., clarify what they want to say) by peer support and cooperation. Lam and Wong concluded that

A lack of sympathy and peer support would only result, at best, in sporadic and unstructured attempts to clarify oneself, or to seek clarification. At worst, learners who have attempted to deploy strategies might be discouraged, and stop using them altogether. (p. 251).

Bejarano et al. (1997) indicated that social-interaction strategies enable interactants to be better communicators.

These are necessary for maintaining the flow of a cohesive and coherent group discussion in which students react to each other and relate to what other members in the group said, rather than deliver their own independent or unrelated short speeches which results in non-interaction participation. (p. 206; see Appendix B for more detail.)
As discussed above, a number of SLA researchers demonstrated that task types, groupings, or individual variation may influence the frequency of learners’ output during student-student interaction; however, it is still not clear from previous research whether or not the increase in the frequency of language output contributes to learners’ language learning, due to paucity of research. Other researchers stressed that the quality of interaction (i.e., effectiveness of social-interaction strategy use) may be more important to encourage learners to speak as well as to maintain the flow of a cohesive and coherent group discussion than the frequency of interaction. Also, researchers argued that the effective social-interaction strategy use may contribute to SLA through CL.

**Vygotskian Perspective**

The interactionist view has been challenged by a number of researchers who work within the framework of sociocultural theory represented by the Vygotskian perspective. The concept of CL was derived from Vygotsky’s (1978) theory on the role of social collaboration in learning and cognitive development. He argued that an individual’s cognitive system is a result of interaction in social groups and cannot be separated from social life. According to Vygotsky (1981), in the earliest stage of life the development of higher psychological functions appears on the social plane; that is, in collaboration with adult caregivers or other knowledgeable members of the child’s culture. The transfer of functions from the social (or interpsychological) domain to the cognitive (or intrapsychological) plane occurs within the ZPD. He proposed the concept of “Zone of Proximal Development” (ZPD); that is, “the distance between the actual developmental level as determined by independent problem solving, and the level of potential guidance or collaboration with more capable peers” (1978, p. 86). For example, when a child is
able to accomplish a certain task independently, that child can achieve something even more difficult and complex if given appropriate assistance by a more capable peer.

The theory was originally posited to describe the learning that takes place between an adult and a child. SLA researchers challenged the application of this learning process between an adult and a child in the ZPD to adult-adult interaction. The learners’ progressions in the ZPD were examined through scaffolding, dialogues, and the use of L1.

**Scaffolding**

Wood, Bruner, and Ross (1976) explained the concept of scaffolding as a metaphor for the interaction between an expert and a novice engaged in a problem-solving task. They characterized six functions of the scaffolding help that the expert provides to the novice:

1. Recruitment – enlisting the learner’s interest in the task.
2. Reduction in degrees of freedom – simplifying the task.
3. Direction maintenance – keeping the learner motivated and in pursuit of the goal.
4. Marking critical gestures – highlighting certain relevant features and pointing out discrepancies between what has been produced and the ideal solution.
5. Frustration control – reducing stress and frustration during problem solving.
6. Demonstration – modeling an idealized form of the act to be performed by completing the act or by explicating the learner’s partial solution. (p. 98)

Wood et al. described “scaffolding” as the support provided by mothers as they assisted their young children in building a pyramidal construction from a set of wooden blocks. Not only was the mother’s assistance intended to help the child complete the task on that
particular occasion, it was also designed to enable the child to master the strategies required to carry it out unaided in the future. In the classroom, once students are able to assume more responsibility for the task with the instructor's scaffolding, the instructor should gradually withdraw that support in order to enhance students' problem solving skills (Johnson, 1996).

Adair-Hauck and Donato (1994) examined how the interaction between the expert (teacher) and the novice (learner) would improve the novice's learning in the ZPD. They argued that "[learners'] progression in the ZPD largely depends upon the communicative interaction that created the negotiation of meaning, coherence, and participation between expert and novice" (p. 541). They explained that discourse in which the teacher mediates the increasing involvement of the novice helps to establish coherence within the architecture of the dialogue and allows for the filtering of new information or new "meaning" through the used of familiar patterns of speech.

Furthermore, Donato (1994) investigated the relationship between collective scaffolding and linguistic development. He found that when learners worked in pairs, they could complete a more difficult task than they could individually.

Dialogue

Swain and Lapkin (1998) provided support for a theoretical orientation towards viewing dialogue as both a means of communication and a cognitive tool. The dialogue between students engaged in a group activity revealed the mental processes of language learning. Their data were collected from an analysis of the language-related episodes isolated in the dialogue of two grade 8 French immersion students as they carried out a jigsaw task in both L1 and L2. The students were to work out the story together based on
a series of eight pictures, and then write it out. Swain and Lapkin found that the target pair collaboratively developed the story line, using dialogue to co-construct the language they needed to express the meaning they wanted and to co-construct knowledge about the language. In other words, their dialogue served as a tool, both for L2 learning and for communicating with each other. They continually generated alternatives, assessed alternatives, and applied the resulting knowledge to solve a linguistic problem.

**L1 Use**

Anton and DiCamilla (1998) also extended the theory of scaffolding to include joint problem solving among novices. They examined the social and cognitive functions of L1 use in the collaborative speech of L2 learners (novice-novice) engaged in a writing task in the L2 classroom. The 10 subjects in the study were adult learners of Spanish at the beginner level. Audio recordings of the three collaborative sessions were conducted, and audiotapes were transcribed. The purpose of analyzing these transcriptions was to study the nature of the collaborative process and the strategies used by subjects in collaboration. Their study found that L1 was used as a powerful tool of semiotic mediation between learners (at the interpsychological level) and within individuals (at the intrapsychological level). Interpsychologically, the use of L1 enabled learners to work effectively in the ZPD by enabling them to construct a shared perspective of the task. Intrapsychologically, L1 emerged in collaborative activity in the form of private speech as a cognitive tool in problem resolution.

The results of Anton and DiCamilla’s (1998) study provided further evidence that the use of L1 in dialogic exchanges emerges not merely as a device to generate content and to reflect on the material produced but, more important, as a means to create a social
and cognitive space in which learners are able to provide each other and themselves with help throughout the task. They concluded that their study might lead some to modify current tendencies to completely avoid L1 use in student interaction. To prohibit the use of L1 in classroom situations would eliminate two powerful tools for learning: the L1 and effective collaboration.

Swain and Lapkin (1998) suggested that the target pair’s use of their L1 also contributed to a development of their interlanguage systems. They used their L1, a mediating tool fully available to them, to test their own hypotheses and to focus attention on specific L2 structures. Swain and Lapkin concluded that learner-learner collaboration through discourse accomplished a task with higher comprehensibility than their current level suggested.

Rationale for CL

Pedagogical and Social Advantages for CL

A movement away from teacher-centred methodology toward learner-centred methodology is one of the recent trends in Western pedagogy. Based on the theoretical perspective in SLA (e.g., production-based theories and Vygotsky’s concept of ZPD), researchers and practitioners have demonstrated particular consideration to the significant influence of student-student interaction to enhance learning. As a result, empirical evidence of pedagogical and social advantages for CL has been provided by many of them (e.g., Bassano & Christison, 1995; Felder & Brent, 1996; Long & Porter, 1985; Richards & Lockhart, 1993). Moreover, such advantages of CL meet with learners’ expressed desire to have more opportunity for speaking and listening (Conrad, 1999; Harlow & Muyskens, 1994; Knowles, 1993 as cited in Conrad, 1999; Littlewood et al.,
When viewed from the perspective of current SLA research, a more effective way to promote learners interaction in the language classroom is suggested through the use of group work.

According to Long and Porter (1985), five pedagogical objectives for choosing group work over a teacher-centred technique are:

1. to increase the quantity of language practice opportunities;
2. to improve the quality of student talk;
3. to individualize instruction;
4. to create a positive affective climate in the classroom; and
5. to increase student motivation.

As for the opportunities for increasing the quantity of language practice, Long and Porter (1985) pointed out that while the number of teacher-learner interactions in a traditional classroom is limited, group work increases the opportunity for active aural-oral participation of large numbers of students simultaneously. For example, from observational studies of classrooms, each student has an opportunity to speak for only 30 seconds; as there are a total of 30 students in lockstep, this approach results in 15 minutes of activity (Long & Porter), whereas each student can speak 7.5 minutes with pairs in the same time range. The limitation of speaking opportunities in a traditional approach is also pointed out by Richards and Lockhart (1993). They observed that some students have a reduced opportunity to speak, since the teacher tends to interact with some students more frequently than others in a traditional classroom. This creates what is referred to as the teacher’s action zone. The students in the teacher’s action zone are those with whom the teacher regularly enters into eye contact; to whom the teacher addresses questions; and who are nominated to take an active part in the lesson (Richards
& Lockhart). "If active participation is important in learning, then those students not within the teacher's action zone are at a disadvantage" (Richards & Lockhart, p. 141). Thus, students are likely to have more opportunities to practise language in pair work than with the teacher-centred approach.

As a second benefit for improving the quality of student talk, Long and Porter (1985) emphasized that face-to-face communication in a small group is closer to real-life conversation. Unlike in a lockstep with teacher-student communication in a highly conventionalized conversation, this face-to-face communication requires social skills of topic-nomination, turn-allocation, focusing, summarizing, and clarifying. Bassano and Christison (1995) expressed the importance of practising social skills through meaningful collaborative tasks with peers. In this way, students are allowed to rebuild their collaborative social skills in their new language, such as knowing how to interrupt politely and effectively, how to succeed in negotiating meaning, how to disagree tactfully, and how to come to a compromise, in addition to critical thinking and problem solving. Moreover, Bassano and Christison suggested that, in groups, the students were involved with listening to others, as well as sharing ideas, information, and opinions. As a result, the students were placed in a position of being somewhat dependent upon each other to succeed and to develop empathy. "This interdependence does not happen as readily in a classroom that is highly teacher-centred where students work essentially alone and in competition with each other" (Bassano & Christison, p. 16). Ohta (1995) also supported this view. She investigated the way the target language develops in these two distinct situations, one being teacher fronted (e.g., lecture style) and the other being pair work interaction. In pair-activities, the students were much more devoted to their use of various strategies, such as correction, repetition, or clarification requests, to develop
language competence. Also, the students were observed taking turns and experimenting with the new expressions more actively and flexibly when they constructed "scaffolding" (Ohta).

As to the third benefit of individualizing instruction, Long and Porter (1985) explained that small groups of students can work on different sets of materials suited to their own needs, unlike in a lockstep procedure in which students' individual differences are disregarded. Moreover, group work avoids the risk of boring other students who do not have the same problem or who do have the same problem but need less time to solve it (Long & Porter). In addition to individualizing the teacher's instruction, learners also have an opportunity to teach each other during small group language tasks, thereby solidifying their own learning (Bassano & Christison, 1995). Giving new information to someone else is the best way for more verbal learners to retain information (Bassano & Christison). The students learn by doing, and not by watching and listening (Felder & Brent, 1996). Thus, by using group work, the instructor is able to accommodate students' individual differences as well as to improve learners' retention of lessons.

Fourth, Long and Porter (1985) suggested that group work creates a positive affective climate in the classroom. In contrast to the relatively threatening public atmosphere of the traditional classroom, a small group of peers provides a nonthreatening, intimate setting, as well as a more supportive environment in which to try out embryonic SL skills (Long and Porter).

According to Long and Porter (1985), the fifth benefit, increasing learners' motivation, is supported by several empirical studies. Based on students' responses to a questionnaire, Littlejohn (1983 as cited in Long and Porter) found that group work provided increased motivation to study Spanish among beginners. Felder and Brent
(1996) also reported that properly implemented group work led to increased motivation to learn, greater retention of knowledge, deeper understanding, and more positive attitudes toward the subject being taught.

**Benefits of CL and Learners' Needs**

The pedagogical and social benefits in a collaborative classroom coincide with learners' needs in foreign language programs. The results of current analyses have shown that the learner's desire for improving speaking and listening abilities is significantly higher than for writing and reading proficiencies (Conrad, 1999; Harlow & Muyskens, 1994; Littlewood et al., 1996). Harlow and Muyskens found that students of French and Spanish at 12 different universities in the U.S.A. felt that success in the skills of speaking and listening comprehension represented the most important outcome for them in the language classroom. Likewise, Knowles (1993 as cited in Conrad, 1999) found that students of French at a North American university, from beginning levels to advanced courses, desired an emphasis on oral practice.

Littlewood's (2000) survey of 2,156 Hong Kong tertiary EFL students' attitudes and proficiency in spoken English also showed students' preference for an active speech role even though their passive speech role was evident in their classroom performance. Littlewood et al. (1996) suggested that students' perceptions of their speaking abilities seemed to have been influenced by their English learning experience. The more speaking they did, the higher they rated their ability to speak and vice versa. His results of the survey indicated that frequency of practice is a major factor leading to confidence and proficiency in spoken communication. These results support many FL/SL practitioners'
beliefs that communication through speaking and listening is intrinsically interesting, motivating, and important to the language learners.

Limitation of CL Advantage

Learner Diversity with CL

In SLA theory, peer interaction through collaboration has been widely assumed as beneficial for SL/FL learning. To link back with the roles for output discussed previously, peer interaction provides learners with ideal opportunities to practise, test, and highlight a syntactic mode of processing. However, potential roles of comprehensible output, social interaction, and cognitive development through collaborative tasks are likely to vary by learners and groupings (Haneda, 1996; Nobuyoshi & Ellis, 1993; Swain & Lapkin, 1998).

Nobuyoshi and Ellis (1993) reported that one of the experimental Japanese learners failed to show any immediate or long-term improvement in the use of accurate verb forms in their study in Japan. They argued that "pushing" learners to make their output more comprehensible leads to linguistic development only in some learners, while others do not benefit" (p. 208).

Likewise, Swain and Lapkin (1998) found that some pairs of students produced significantly smaller LREs, and suggested that these students might "profit differentially from the collaborative activities implemented in classrooms" (p. 334).

Haneda (1996) identified various discourse patterns from her qualitative analysis of students' dialogues. She described that learners' collaborative dialogue ranged from "Knowledge Transmission" at one end of the scale to "Learning from Each Other" at the more interactive end. According to Haneda, "Knowledge Transmission" was characterized as one learner doing most of the work, and providing most of the answers
The page contains a block of text that is not clearly visible due to the quality of the image. The text appears to be continuous and formatted in paragraphs. Without clearer visibility, it's difficult to transcribe accurately. However, if this were a document, we would read it naturally as a paragraph, possibly discussing a topic or providing information.
without much discussion or collaboration. On the other hand, “Learning from Each Other” was characterized as both learners contributing to the task completion equally by collaborating throughout the process of passage reconstruction. Furthermore, she discussed possible factors that might have contributed to different interactional patterns and found that these variables attribute to interlocutor familiarity (i.e., how familiar with one another), language proficiency, and the partner’s attitudes.

This study turns to more specific literature implicating possible characteristics of those students who seem to be reluctant to participate in CL activities.

**Western Educational Value Versus Eastern Educational Value**

Some research has suggested that the advantages of interactionist theory do not take into consideration broader social factors. The traditional style of teaching in Asia is still largely teacher centred and based on the lecture method (Ballard, 1996; Cortazzi & Jin, 1996; G. Ellis, 1996; C. Lee, 2000; Littlewood et al., 1996; Shamim, 1996a, 1996b). As a result, Asian students are prone to use rote-based, low-level cognitive strategies (Biggs. 1996).

According to Biggs (1996), good learning environments in Western education possess the following characteristics:

1. Teaching methods are varied. They emphasize student activity, self-regulation and student-centredness, and include much cooperative and other group work;

2. Content is presented in a meaningful context;

3. Small classes;

4. A warm classroom climate;

5. High cognitive level outcomes are expected and addressed in assessment; and
6. Assessment is classroom based and conducted in a nonthreatening atmosphere. (pp. 45-46)

Western observers remarked that such an environment is rare in classrooms in East and Southeast Asia (Biggs, 1996), especially those Ho (1991, as cited in Biggs) refers to as "'Confucian-heritage cultures' (CHC): China, Taiwan, Singapore, Hong Kong, Japan, and Korea.” (p. 46). In addition, Western educators viewed the Asian teacher as an authoritarian purveyor of information, one who expects students to listen and memorize correct answers and procedures rather than to construct knowledge themselves (Biggs).

Nakagawa (2000) explained in his dissertation why differences between the role of language in Western culture and Eastern culture arose, stating that:

In the Western tradition of education, aspects regarding language – not only speaking, reading, and writing, but also logical, dialectical, discursive ways of thinking – have always been considered to be the highest abilities in human nature. Language has been thought of as being endowed to humans by God as logos.

On the other hand, that has been never the case in Eastern philosophy, in which language has never won the highest status; rather an “abnormal” degree of disrespect for language has stood out. Eastern ideas have traveled along the opposite direction to the farthest point; that is, words, concepts, logic, and knowledge – all these meant something “negative,” something to be abandoned, and, instead, “silence” has achieved the highest importance. Based on penetrating insights into the nature of language, Eastern philosophy has favoured silence. Eastern philosophers have regarded language as the basic hindrance to realizing a deeper reality and identified silence as an avenue to it and furthermore as the infinite reality itself. (p. 138)
Nakagawa attributed differences of the role of language on both sides of the world to different philosophies in the respective society.

Anthropological researchers found that perceptions of rules for talk, turn-taking, and behaviour differed considerably between cultural backgrounds. Wong-Fillmore (1983) investigated an occurrence where Chinese students were apparently not willingly cooperating with their peers, while in fact they were so anxious to please the teacher that they were prepared to strive for perfection in carrying out teacher-assigned tasks. Her interviews with the Chinese students’ parents revealed that the parents’ beliefs, in which academic success directly relates to their children’s success in their future life, deeply influenced Chinese students’ classroom behaviour. Richards (1990) speculated that these learners, accustomed to a highly competitive education system may have found it difficult to interact effectively with peers because in some areas of Asia, individual scholastic achievement is highly valued. Certainly, there is a danger to overgeneralize cultural differences, since individuals in the same culture greatly differ from one another, yet this evidence could be useful in its implication of how cultural background affects learners during the process of language learning.

Cortazzi and Jin (1996) suggested that educational differences as well as cultural differences influence Asian learners’ language learning overseas. For example, Asian learners who experienced teacher-centred methodology in their home countries might have difficulty to speak or interact with peers in classroom activities. Moreover, they might be faced with a lecturer who has little knowledge of their home countries, very little patience with their special problems, and only irritation with their language difficulties. Ballard (1996) indicated that:
Masked by language problems lie the much deeper problems of adjusting to a new intellectual culture, a new way of thinking and of processing knowledge to meet the expectations inherent in the Anglo educational system. Foreign students come not merely from other language backgrounds but, more importantly, from other cultural backgrounds (p. 150).

In conclusion, Ballard stressed that language training needed to be designed and structured for bridging the gap between Western and Asian educational differences as well as the differences in social culture. It might be difficult to move to a distinctive educational culture, which could be unexpectedly different from the one in which they had been nurtured. In order to avoid their discouragement, it is necessary to prepare for them.

Possible Cultural Influences on Asian Learners' Attitudes in Classroom

In the field of SLA, there are in generally remarkably few references to cultural influences (Cortazzi & Jin, 1996). Currently, more SLA researchers are emphasizing the influence of learner variability, such as age, gender, culture, learning styles, and the social relationship of learners and their interlocutors to their L2 acquisition (Gass, Mackey, & Pica, 1998).

Horwitz (1999) suggested that understanding learner beliefs about language learning is essential for understanding learner's anxiety, motivation, and strategies about language learning, and planning appropriate language instruction. Her results from the BALLI (Beliefs about Language Learning Inventory) indicated the possibility that within-group differences, whether related to individual characteristics or differences in instructional practices, likely account for as much variation as the cultural differences
although there may be some tendency among the same cultural group members to share a particular belief.

In addition, C. Lee (2000) stated that learner variability (e.g., cultural difference) could be an element in shaping students' perceptions and involvement in peer interaction. For example, according to Lee, "Confucian concepts and rules of learning play an important part in shaping Chinese EFL students' learning attitude and participation in classrooms" (p. 52). Lee observed that traditional classroom practice is thought to predispose Asian learners to prefer working on their own, and the students strongly believed that "learning is for the sake of oneself and not for the sake of showing off to others, and learners should show respect for authority" (p. 52). If this is the strategy used by Asian learners in the classroom, they may have difficulty when engaging in CL that emphasizes learners' involvement of mutual learning through interaction with others.

The next section examines how educators and researchers regard Asian learners compared to Western learners.

Stereotypes of Asian Learners

Some widely held characteristics of Asian learners in FL classrooms found in literature are summarized below:

1. They highly respect the role of the teacher as the only source of authority.
2. They are passive learners (e.g., reluctant to speak or to interact with peers).
3. They have high achievement motivation with individualistic orientation.

An Asian learner is known as an admirer of teacher's authority that attributes to Confucian heritage (Biggs, 1996; Flowerdew, 1998; Kramsch & Sullivan, 1996; C. Lee, 2000). Flowerdew (1998) explained that "in accordance with Confucian tenets, society is
hierarchically ordered, with due respect shown for age, seniority, and rank” (p. 325).

Likewise, Kramsch and Sullivan (1996) observed that the roles for teachers and students in Vietnam reflected traditional Confucian precepts and were very different from a Western perspective. “In Vietnam, a country where people are deeply aware of their Confucian heritage, the tradition is that a teacher is honoured and respected, even more so than one’s parents” (Kramsch & Sullivan, p. 206). Furthermore, some Asian students tend to look on teachers as close to gods; therefore, they display almost unquestioning acceptance of the knowledge and authority of the instructor. The knowledge is not open to debate by students arguing with their instructors, nor accepting “knowledge” from sources other than the instructor (Biggs; Flowerdew). Biggs explained that this may stem from an extension or transfer of the Confucian ethic of filial piety and the strictness of discipline, in contrast with an expression of opinion, creativity, and cognitive development.

This same reluctance to openly challenge authority and express opinions is also manifested in students’ relationships with and attitude towards their peers (Flowerdew, 1998). A number of investigations (e.g., Carson & Nelson, 1996; C. Lee, 2000; Mangelsdorf, 1992; Sato, 1982; Tarone & Yule, 1989; Tsui, 1996) reveal that Asian learners are reluctant to interact with peers and withhold giving critical feedback on their peers’ work. Sato attempted to investigate cultural differences in the learners’ classroom production, and found that Asian students (Chinese, Japanese, and Korean) took significantly fewer self-selected turns than non-Asians did. Mangelsdorf warned that student-centred activity might be resisted by Asian-background learners who were not familiar with such a collaborative environment. Tsui (1996) revealed that the problem of getting students to respond is particularly acute with Asian students, who are generally
considered to be more reserved and reticent than their Western counterparts. Carson and Nelson explored Chinese learners’ interaction styles and reactions to peer response groups in ESL composition classes. They found that the most salient characteristic of the Chinese speakers’ interactions was their reluctance to speak. They often withheld comments when they had a disagreement with a peer because a direct statement of disagreement is likely to create conflict and tension within the group. As Nakagawa (2000) indicated, they sometimes felt that silence was the most polite response. C. Lee (2000) has also reported that she had difficulty in her efforts to encourage Chinese EFL learners in Hong Kong to participate in small group discussions. Tarone and Yule (1989) proposed that their reluctant attitudes stem from the Confucian principle that causes them to dislike losing face themselves, by making incorrect responses as well as to prevent the same from happening to their peers. “They are hesitant about saying anything unless they are absolutely sure it is correct” (p.54).

C. Lee (2000) explained that Asian learners’ passive behaviour is a sign of a learning attitude which entails respect to instructors and classmates, rather than a sign of withdrawal from learning. Actually, “many studies discovered that Asian learners are not only diligent, but they also have high achievement motivation. Invariably, they have a high regard for education” (W. O. Lee, 1996, p. 25). As described by Wong-Fillmore (1983) previously, Asian society is education minded to an extraordinary degree: Asian people traditionally regarded education as the most reliable property, and success in formal education is considered largely synonymous with success in life. The family ethics of “developing your fame and glorifying your family” created a strong motivation of pursuing excellence. A high degree of parental involvement in and commitment to the education of children obviously seemed to support Asian learners’ high achievement
motivation. The Asian learners' significance of effort and will power in the process of learning were recognized in a number of literatures. W. O. Lee explained that there is strong belief in the Confucian tradition that one's failure is not due to one's internal ability, but one's effort and will power:

A weak-willed person making no effort is doomed to failure. In contrast, despite of your level of intelligence, if one tries and keeps trying, one will certainly 'get there' sooner or later. This tradition seems to have influenced many modern Asian learners with a Confucian tradition. (p. 39)

Returning to the notion of “learning for the sake of oneself,” according to W. O. Lee, the term “self” in the Chinese tradition usually included the family, and the tradition signified individualistic orientation in education.

As discussed above, teacher-centred pedagogical traditions and philosophy derived from Confucianism likely affect Asian students' beliefs and attitudes towards education. However, there are also some contradictions which exist in the literature.

Different Perspectives on Asian Learners

In another view, Confucian beliefs pertain to the concept of group cohesiveness, which is deeply grounded in collectivist society. Flowerdew (1998) observed that CL strategies exist in Hong Kong's exam-oriented and highly competitive environment. However, this could be viewed as a sort of coping strategy for the students, a safeguard against the academic pressures and demands placed upon them, which are compounded by family pressure to attain a high academic standard. Lam's (1997, cited in Flowerdew, 1998) study of 118 undergraduate students in Hong Kong also indicated that students considered working in groups and pairs to be more enjoyable than working individually.
Likewise, Roskams (1999) examined the attitudes of 217 Chinese students to pair work in a Hong Kong university. He found from learners’ responses to the questionnaires that 95% of the learners showed positive attitudes towards group work involving with peer feedback and assessment.

Littlewood (2000) examined some common preconceptions about Asian students and their learning attitudes in eight Asian countries (2,307 students) and three European countries (349 students). He analyzed students’ responses to the three statements below:

1. In the classroom I see the teacher as somebody whose authority should not be questioned.

2. I see knowledge as something that the teacher should pass on to me rather than something that I should discover myself.

3. I expect the teacher (rather than me myself) to be responsible for evaluating how much I have learnt. (p. 32)

Littlewood found that the students’ responses to these three statements clearly indicated that the stereotype of Asian students as “obedient listeners” does not reflect the roles they would like to adopt in class. Moreover, he observed that Asian learners do not see the teacher as an authority figure, and they do not want to sit in class passively receiving knowledge from the teacher; however, they tend to agree with the teacher’s role of evaluating their learning. Overall, there was actually less difference in attitudes to learning between Asian and European countries than there was between individuals within each country.

Such Asian students’ attitudes towards group work and concepts on the authority of the teacher contradict the aforementioned literature that described stereotype of Asian Learners. One of the major reasons may stem from their research methodology. While
some researchers (e.g., Biggs, 1996; Carson & Nelson, 1996; Flowerdew, 1998; Kramsch & Sullivan, 1996; C. Lee, 2000; Mangelsdorf, 1992; Sato, 1982; Tarone & Yule, 1989; Tsui, 1996) reported Asian learners' performance based on their observations, the others (e.g., Littlewood, 2000; Roskams, 1999) provided their perceptions based on students' self-reports. This contradiction could be an indication of the gap between learners' performance and learners' preferences (i.e., although learners have a desire to actively engage in group work, they can not fully interact with peers due to a lack of practice). Many researchers suggested that a lack of practice or familiarity with collaborative activity has influenced Asian learners' behaviour in class. Littlewood et al. (1996) articulated that if the learners would show reluctance to speak in class, it was not because they did not want to speak, but most probably because of a lack of practice or opportunity. Ballard (1996), Bassano and Christison (1995), Bruffee (1993), and Roskams (1999) also pointed out that a lack of familiarity in collaborative activity in their background education is believed to impact on their performance during and beliefs on CL.

**CL Training**

**Possible Solutions for Collaboration Problems**

Bruffee (1993) suggested that students need to learn how to work together productively, and they may have to learn collaboration skills. Roskams (1999) also emphasized that the most promising solution to deal with collaboration problems is to train the students in cooperation. Bassano and Christison (1995) suggested four stages in the development of group skills:

1. Learners develop awareness that CL exists and gain an understanding of its importance and efficacy.
2. Learners begin to understand what some of the necessary skills are to be an effective group member.

3. Learners begin to practice the words and skills in a somewhat self-conscious, mechanical (and often awkward) manner. This is akin to learning to drive a car and is often the most difficult step.

4. After a good deal of practice, they will gain an unconscious, automatic use of collaborative skills both in class and, we hope, out of class. (p. 27)

Relatively little research, however, has been done on interactive strategy training. Lam & Wong (2000) analyzed that among the research that has investigated strategy instruction, only Bejarano et al. (1997) dealt with speaking as an interactive skill. Bejarano et al. (1997) investigated the effect of preparatory training in order to ensure more effective communicative interaction during group work carried out in the language classroom. The purpose of their study was twofold: to examine the extent to which such strategies can actually be taught; and to ascertain to what extent such training would alter the learner's interactive behaviour in small-group work in a foreign language classroom. The participants were 34 high school students in two EFL classes in Israel. Bejarano et al. developed a special training program in the Skilled Use of Interaction Strategies (SUIS); however, they did not explain how they trained in the SUIS, except for citing two training activities. They argued that one way to improve the quality of communicative interaction in the classroom was to increase students' use of Modified-Interaction (i.e., checking for comprehension and clarification; appealing for assistance; giving assistance; and repairing) and Social-Interaction Strategies (i.e., elaborating, facilitating flow of conversation, responding, seeking information or an opinion, and paraphrasing). Their results, based on descriptive statistics, demonstrated that training
improved the frequency of the interaction in the treatment group, whereas there were no significant differences between pre- and posttest data in the control group. In other words, their quantitative results indicated that just working in small groups would not, of itself, result in an increase in the use of interaction strategies, and therefore training is necessary to improve the balance and the number of turns in participation as well as the use of interaction strategies.

Lam and Wong (2000) investigated the effects of strategy training on developing discussion skills in an ESL classroom in Hong Kong. Their focus was not only to examine quantity (i.e., frequency) of strategy use, but also quality (i.e., effectiveness) of strategy use after training. Based on Bejarano et al.’s (1997) list of interaction strategies, they designed a group discussion strategy questionnaire to ask experienced teachers what strategies they felt the students needed most in group discussion. From the results, they identified three strategies for training: (a) clarifying oneself, (b) seeking clarification, and (c) checking one’s understanding of other people’s messages. They planned three consecutive lessons, in which the objectives were as follows:

Lesson One: Awareness raising and introduction
1. Raising students’ awareness of the nature and value of interaction strategies.
2. Teaching and providing practice on ‘clarifying oneself’.

Lesson Two: Reinforcement
1. Reinforcing students’ use of ‘clarifying oneself’.
2. Teaching and providing extended practice for ‘seeking clarification’ and ‘checking one’s understanding of other people’s messages’.
Lesson Three: Consolidation and revision

1. Revising, practising, and consolidating the use of the three interaction strategies. (p. 247)

To evaluate the impact of strategy training, they compared the transcripts of the posttraining recordings with those of the pretraining discussion. Although they found that training resulted in increasing the quantity (frequency) of interaction strategy use, it did not improve the quality (effectiveness) of interaction strategy use. They articulated that "a higher frequency per se does not necessarily guarantee successful interaction. In fact, it is the quality – effectiveness of strategy use – that plays a more important part in bringing about effective communication" (p. 249). Lam and Wong concluded that strategy training which emphasizes team work (e.g., peer support, cooperation) is necessary to improve the quality of interaction strategy use, because a lack of sympathy and peer support might discourage and stop the use of strategies.

On the other hand, Jacobs and Kline Liu (1996) observed that some educators raised concerns regarding training: whether or not spending time helping students learn to function together would be the language teacher’s job, or whether or not it would be better just to skip using groups and avoid the headache of trying to get students to work together. Especially, these may be great concerns of a language instructor whose workload is already heavy under an extensive syllabus or curriculum. For example, the Foreign Service Institute (FSI) has estimated that it takes approximately three times as long to achieve a certain level of competency in Japanese as it does in French or Spanish (Omaggio, 1993). In the case of a beginner’s Japanese language program, an important role for the instructor is to have students master two sets of 46 basic syllabic characters with approximately 100 Chinese characters. This is in addition to various grammatical
lessons, which may lead to a heavier workload for the instructor and the students when compared to other language programs of which the language is based on alphabetical characters.

G. M. Jacobs and Kline Liu (1996) concluded that helping students learn and practise collaborative skills is not a distraction from language teaching; instead, the language necessary to use these skills involved basic language functions (such as greetings, information requests, apologies) which students would find useful in real life. This view, however, raised a question as to whether or not training in the context of a foreign-language curriculum, where students have little chance to use their skills with the TL outside of class, could still be effective. As G. Ellis (1996) pointed out, "the distinction between ESL and EFL highlights a mismatch for Asian learners between the instrumental aims of the communicative approach and their own situation" (p. 215). It is important to remember that the JFL took place outside of a Japanese-speaking environment. As a result, the JFL student had little opportunity to immediately test out or practise new language skills in real life. When the students' need for the target language seems rather remote to them, they have relatively low immediate motivation to learn (Ryan, 1997). Nevertheless, if the learner's motivation for improving the TL is high enough to access real-life situations through the local community group or the instructor's assistance, the learner could have various opportunities to practise the skills. Hence, in the JFL setting, promoting learners' motivation for practising social interaction skills outside of class seems to play an important role in learning the TL.
Chapter Summary

In this chapter, background information related to the questions posed in the current study was reviewed. Benefits of CL are supported by numerous theories, research, and empirical studies. The available literature, however, reveals that the current presupposed benefits for CL are based largely on Western theory (e.g., SLA theory includes Swain’s output hypothesis, 1985, and Vygotsky’s ZPD, 1978) and Western empirical research (e.g., Long & Porter, 1985). While instructional methods in Western FL education have moved away from traditional teacher-directed methods towards a learner-centred approach, the traditional style of teaching in Asia is still teacher centred (e.g., C. Lee, 2000). Such teacher-centred pedagogical traditions and Asian philosophy which respects “silence” likely influence Asian students’ attitudes towards and beliefs on CL. While some researchers (e.g., Biggs, 1996; Carson & Nelson, 1996; Flowerdew, 1998; Kramsch & Sullivan, 1996; C. Lee, 2000; Mangelsdorf, 1992; Sato, 1982; Tarone & Yule, 1989; Tsui, 1996) reported stereotyped Asian learners (e.g., they were admirers of teacher’s authority, passive learners, yet highly motivated achievers) based on their observations, the others (e.g., Littlewood, 2000; Roskams, 1999) provided different perspectives (i.e., there was less difference in attitudes to learning between Asian and European countries than there was between individuals within each country) based on students’ self-reports. This contradiction could be an indication of the gap between learners’ performance and learners’ preferences.

Some researchers have been arguing that CL training needs to be designed and structured to fill in the gap (e.g., Ballard, 1996; Bassano & Christison, 1995; Roskams, 1999). Relatively little research, however, has been conducted to examine the influence of CL training. Bejarano et al. (1997) investigated the effect of preparatory training to
ensure more effective communicative interaction during group work in a FL classroom. Although Bejarano et al. did not include a detailed training scheme, their concept of CD for Social-Interaction Strategies could be a useful tool to determine the quality of learners’ communicative interaction in the classroom for this study. Lam and Wong (2000) designed strategy training to develop learners’ discussion skills based on Bejarano et al.’s (1997) list of interaction strategies. The framework and evaluation of training by Lam and Wong provided important implications for this study, as will be discussed in Chapter Three.

Consequently, the literature reviewed in this chapter was instrumental in the selection of the research topic as well as methodological procedures. For example, Swain’s Output Hypothesis (1985) and Vygotsky’s (1978) concept of the ZPD were used as a theoretical foundation for the research topic in this study. In order to examine the influence of collaborative training, and the process of Asian learners’ CL, this study followed Kowal and Swain’s (1994) data collection techniques using the LREs, the final draft, and the number of c-units. Wajnryb’s (1990) dictogloss was used as pre- and posttests. In order to promote learners’ interaction, the construction of IGA (Walz, 1996) was implemented into dictogloss. Roskams’s (1999) techniques using pre- and postcollaboration questionnaires were also integrated in this study. Essential data analysis techniques which were incorporated into this study include Swain and Lapkin’s (1998) study to assess the final draft, and Haneda’s (1996) study to evaluate learners’ cognitive development in the LREs.

The next chapter provides details on the methodology and procedures of the current study, with reference to the literature discussed in this chapter.
CHAPTER THREE: METHODOLOGY AND PROCEDURES

Overview

Related research reviewed in the previous chapter provided some of the background information needed to establish the methodology and procedures to accomplish the purpose of the current study. The purpose of this study was to examine to what extent training with practice affected Asian learners' attitudes towards and interaction during CL and how they accomplished collaborative tasks in pairs. Data were collected from 45 undergraduate students at McMaster University between January and April of 2000. Multiple testing measures such as pre- and posttests, questionnaires, student information, and informal classroom observation were used to verify the consistency of findings. A number of techniques were then instrumented to analyze these data. This chapter provides detailed descriptions of the study's research design, site and participant selection, course descriptions, data collection procedures, instrumentation, data analysis, and methodological assumptions and limitations.

Research Design

Research design, including the two principal research questions to be answered, a procedure of data collection, and a description of data analysis, is organized in Table 1. This study was administered over 10 weeks and 20 hours of class time. The quasi-experimental research design was used for this study. Quasi-experimental designs facilitate the search for knowledge and examination of causality in situations in which complete control is not possible. In educational research, when studying human subjects, frequently there are variables that researchers are unable to manipulate or control for
Table 1

Research Design

<table>
<thead>
<tr>
<th>Research questions</th>
<th>Data collection</th>
<th>Data analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To what extent does training with practice affect Asian learners' attitudes towards and interaction during CL?</td>
<td>Audio-taped data from pre- and posttests</td>
<td>a. Frequency of c-units</td>
</tr>
<tr>
<td></td>
<td>Final drafts</td>
<td>b. Frequency of LREs</td>
</tr>
<tr>
<td></td>
<td>Pre- and postintervention questionnaires</td>
<td>c. Frequency of CD</td>
</tr>
<tr>
<td>2. How do Asian learners accomplish collaborative tasks in pairs?</td>
<td>Audio-taped data from pre- and posttests</td>
<td>d. Final draft scores</td>
</tr>
<tr>
<td></td>
<td>Students' information</td>
<td>e. Responses to the numerically coded questions, etc.</td>
</tr>
<tr>
<td></td>
<td>Pre- and postintervention questionnaires</td>
<td></td>
</tr>
</tbody>
</table>

Note. The alphabetical characters under the column of “Data analysis” correspond to the separate research questions (see Questions to be Answered, Chapter One).
many reasons (ethical and practical); therefore, experimental designs cannot be used. Like true experiments, this design involves the manipulation of an independent variable, that is, the institution of an experimental treatment.

In the treatment group, learners received training, while in the comparison group, learners did not receive training. As much as possible, the experiences of both the treatment and comparison groups were kept identical, except that the participants in the treatment group received training with practice and each group had different instructors during tutorial sessions. (See Methodological Assumption and Limitations.) Precautions were taken to keep all the instruction in the treatment group the same as the instruction in the comparison group by observing classes for the comparison group taught by the coordinator and by having weekly meetings with the coordinator to minimize the difference in the instruction between the two tutorial groups. On the other hand, having different instructors in both groups actually prevented the researcher effect because, if the same instructor had taught both groups, s/he could have inadvertently influenced results due to preferential treatment or through reinforcing behaviour.

To simulate the natural classroom setting as opposed to an experimental setting, students were allowed to select their own partners for the pretest. Most of them simply selected whoever was sitting beside them as they would during a regular classroom session. For the posttest, the researcher asked them to make a pair with whom they selected for the pretest. There were 12 pairs (24 students) who consisted of the same member in pairs for both the pre- and posttests. The pairs who did not attend both or either pre- and posttests, or either member was absent from either pretest or posttest, were eliminated from the pre- and posttests data analysis. Data from audio-tapes and the final
drafts from 24 students with pre- and postintervention questionnaires, student information, and informal observations from 45 students were used to answer the research questions.

To verify the consistency of finding in this study, multiple data such as learners' audio-taped data and final drafts from the pre- and posttests, questionnaires, student information, and informal classroom observations were gathered. Triangulation of the data from these various sources allowed the researcher to have results with greater validity than if a single or similar methods had been used (McMillan & Wergin, 1998). For example, “Questionnaires often reveal ‘publicly acceptable’ beliefs rather than true beliefs or actual behaviours. Students may have been reluctant to criticize the pair work arrangement as their name was included on the form to match the response for partners” (Roskams, 1999). If a student showed positive comments on pair work in questionnaires, yet audio-tape data indicated that s/he interacted poorly in pairs, it could call into question most probably the comments on questionnaires, or possibly the demonstrated interaction.

Several techniques instrumented to analyze these data include c-units, Language Related Episodes (LREs), Collaborative Dialogue (CD), the final drafts, and questionnaires. Detail of methodology and procedures will be described in the following section.

Site and Participant Selection

The participants studied were 45 out of a total of 196 beginner level, undergraduate Japanese language learners at McMaster University in Hamilton. The age range of the participants was from 18 to 20 years old. The majority of students (86%) in the study were of Asian background, primarily from Korea (2), Malaysia (1), PRC (the People’s Republic of China; 23), Taiwan (12), and Vietnam (1). The remaining 14%
were Asian or non-Asian background Anglophone learners from Canada and the U.S.A.

(6).

This investigator was a Teaching Assistant (TA), who was responsible for two tutorials in the Japanese language program at the beginner level. The students were divided into a treatment group and a comparison group, as this permits an analysis of significant differences between the two groups. The participants in the treatment group for this study were from this researcher’s two tutorials (N=22), and the other students for the comparison group were in a third tutorial (N=23), which was taught by the course coordinator. As this investigator’s tutorials started early in the morning, the number of students in the two tutorials was equivalent to the number of students in one tutorial in the comparison group, which was in a more popular time slot.

The selection of the comparison group was determined by the course coordinator. She selected one of her tutorial classes according to the similar number of students in the treatment group.

To ensure that the rights of the human subjects involved in the study were protected, the research proposal was subjected to an ethical review and deemed ethically acceptable by the Brock University Research Ethics Committee and the McMaster University Research Ethics Board prior to the commencement of the research. All participants were made aware of their right to withdraw from the research any time they wish. The study also explained that participants’ anonymity and data confidentiality, and that whether or not they granted the researcher permission to analyze the data would not affect their course grade. All the participants completed consent form prior to the commencement of the study. See Appendix C for letters of approval and a consent form.
Course Descriptions

Japanese 1Z06 was a two-semester course at McMaster University that entailed a total of 104 hours of Japanese instruction during one academic year. There were a total of 10 tutorials; the course coordinator presented a lecture to all students and taught four tutorials, and three Teaching Assistants (TAs) taught two tutorials each. The classes of 4 hours a week were divided into 2-hour lecture sessions (1 hour per day; 2 days a week), and 2-hour tutorial sessions (1 hour per day; 2 days a week). In a typical lecture session, the course coordinator introduced new grammatical topics. In a typical tutorial session, under a TA’s supervision, students were provided opportunities to practise four proficiency skills (i.e., listening, speaking, reading, and writing) using the Japanese language, based on what they learned during the lecture session. The course coordinator arranged a meeting with the TAs once a week in order to maintain equivalent context in each tutorial.

During the first term (September to December 1999), students had a number of experiences in interacting with peers in tutorials, thereby becoming somewhat familiar with collaborative activities by the end of the first term. The research was conducted during the second term (from January to April of 2000). The researcher had previously taught the same tutorial groups in the first term.

Procedure of Data Collection

After obtaining the participants’ consent, data were collected at five stages (Stage 1: preintervention questionnaire; Stage 2: pretest; Stage 3: training with practice; Stage 4: posttest; Stage 5: postintervention questionnaire). Table 2 summarizes the procedure of data collection.
Table 2

**Procedure of Data Collection**

<table>
<thead>
<tr>
<th>Month</th>
<th>Week</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>Week 3</td>
<td>Explain study to the coordinator at McMaster University.</td>
</tr>
<tr>
<td></td>
<td>Week 4</td>
<td>Pilot test the questionnaires, pretest and posttest.</td>
</tr>
<tr>
<td>February</td>
<td>Week 1</td>
<td>Submit ethics proposal to Brock and McMaster.</td>
</tr>
<tr>
<td></td>
<td>Week 3</td>
<td>Distribute consent forms to participants in the study.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Stage 1:</strong> Preintervention questionnaires in both groups</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Stage 2:</strong> Pretest (dictogloss activity) in both groups</td>
</tr>
<tr>
<td></td>
<td>Week 4</td>
<td>Mid-term recess (No classes)</td>
</tr>
<tr>
<td>March</td>
<td>Week 1</td>
<td><strong>Stage 3:</strong> Training with Practice (week 1) in treatment group (TG)</td>
</tr>
<tr>
<td></td>
<td>Week 2</td>
<td><strong>Stage 3:</strong> Training with Practice (week 2) in TG</td>
</tr>
<tr>
<td></td>
<td>Week 3</td>
<td><strong>Stage 3:</strong> Training with Practice (week 3) in TG</td>
</tr>
<tr>
<td></td>
<td>Week 4</td>
<td><strong>Stage 3:</strong> Training with Practice (week 4) in TG</td>
</tr>
<tr>
<td></td>
<td>Week 5</td>
<td><strong>Stage 3:</strong> Training with Practice (week 5) in TG</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Stage 4:</strong> Posttest (dictogloss activity) in both groups</td>
</tr>
<tr>
<td>April</td>
<td>Week 1</td>
<td><strong>Stage 5:</strong> Postintervention questionnaires in both groups</td>
</tr>
</tbody>
</table>
Stage 1: Preintervention Questionnaire

Before the first stage, the questionnaires, pre, and posttests were pilottested at another Canadian institution by randomly chosen Asian learners who had the same proficiency level as the Japanese language learners in this study, to ensure clarity and comprehensibility. The questionnaires, pre-, and posttests were revised as necessary.

During the first stage, students in both treatment and comparison groups were asked to fill in the preintervention questionnaires (see Appendix D). The preintervention questionnaire was necessary to help evaluate Asian learners' familiarity, preferences, attitude, and beliefs on pair work before training. One-week time frames were required to complete the questionnaires considering the possibility of absent students.

Stage 2: Pretest

In the second stage of the study, all subjects wrote a pretest, that is, a dictogloss activity (See Appendix E). Approximately 50 minutes were required for this activity. The purpose of this dictogloss was to investigate how learners practise the TL, deal with and resolve problems, and provide feedback to each other using social interaction skills. The researcher conducted pretests for both control and treatment groups before training so that the impact of training could be assessed by the possible difference of posttest results. To simulate the natural classroom setting as opposed to an experimental setting, students were allowed to select their own partners for the pretest. Most of them simply selected whomever was sitting beside them as they would during a regular classroom session. For the posttest, the researcher asked them to pair with the same person whom they selected for the pretest.

In the dictogloss activity, there were five stages in the procedure: (a) Warm-up: learners reviewed the topic of the text; (b) Pretext Vocabulary: the learners were prepared
for some of the vocabulary; (c) Dictation: learners heard the text three times at conversational speed with 5-second pause after each sentence to allow them to take fragmentary notes; (d) Reconstruction: in pairs learners reconstructed the text on the basis of the fragments recorded in the previous stage, and wrote their text on transparencies; (e) Error analysis: learners analyzed and corrected their texts on transparencies in class.

The dyad interaction occurring during the reconstruction stage (20 minutes) was audio-taped. Data from the recorded tapes were used for analysis of Asian learners’ collaboration in pairs before training with practice. The data were intended to allow the researcher to discern to what extent Asian learners discussed LREs and used social interaction strategies when they worked in pairs. The quality of the final draft written by each pair was analyzed to examine the influence of the frequency of LREs and the frequency of collaborative dialogue before training. Also, the data were used to investigate how groupings influence the TL learning.

The text for dictation was chosen from the course textbook and was modified to focus on the specific grammatical features of each unit such as te-form, tai-form, and ndesu-form (See Appendix F for more details on Japanese grammatical features), which were previously introduced during lecture sessions. Considering the learners’ beginning level of proficiency, and also for the purpose of generating maximum interaction in pairs, reconstructing a short conversation text rather than a descriptive text was designed by the researcher. For example, first, learners listened to the whole short conversation text. Second, each learner concentrated to listen to his/her own part and took fragmentary notes. Finally they reconstructed the dialogue based on the notes while filling in gaps between each part as an information gap activity (See an example in Appendix E).
Stage 3: Training with Practice

The third stage of the study required an implementation of collaborative training with practice (See Appendix G for a complete description). This stage involved only the treatment group. Approximately 30 minutes were used for training with practice once a week for 5 weeks. The purpose of this training was to demonstrate usefulness and strategies in CL. Five consecutive training lessons were carefully planned based on Bassano and Christison’s (1995) four stages in the development of group skills. Then, the activities for practice sessions in each training were designed to encourage the learners to use specific Japanese grammatical forms, which were introduced during the lecture sessions, and to practise making balanced turns. In order to generate their modified output from every individual learner as much as possible, all activities were accomplished in pairs. The worksheet produced by each pair was collected and used to support data analysis. The aim and summary of training with practice for each week were as follows:

**Week 1: Awareness raising**

**Training**

1. To raise learners’ awareness for the nature and value of group work.

2. To have higher proficiency learners realize that explaining language points to lower proficiency learners is not a waste of their time, but an important process of language learning.

**Practice**

1. To practise clarifying one’s utterances by using tai-form to express one’s desire.

2. To get learners familiar with how to interact with each other.
The purpose of training for week 1 was to engage learners with classroom activity that ensured active participation. The underlying concept in this training was based on the notion that learners learn best by the activity of doing, by trying out language, and by teaching someone else (Felder & Brent, 1996; Glasser, 1986). The purpose of the activity for week 1 was to practise how to express a desire using the tai-form by identifying the learners’ motivation and goal.

**Week 2: Introduction of interaction skills**

**Training**

1. To introduce the use of social interaction skills that facilitate the flow of conversation, clarifying a request, and seeking information or an opinion.

2. To raise awareness of the importance of taking turns equally.

**Practice**

1. To practise useful phrases in Japanese.

2. To practise the use of the te-form to clarify requests through the calendar dictation activity.

3. To practise balanced turn taking using coins.

The objectives of training for week 2 were to introduce essential phrases that promote effective interactions and to raise the students’ awareness of balanced turning during group activities. The essential phrases were introduced in the courseware during the first term. As Bassano and Christison (1995) recommended, the instructor prepared a poster on which the phrases were written so that the phrases could be referred to on a regular basis. The instructor also emphasized that taking turns equally in pairs was important in order to carry out meaningful communication during the conversation (Bejarano et al., 1997). In the calendar dictation activity, learners practised how to clarify
requests with the te-form and how to interact with one another to promote maximum and equal participation. In order to promote maximum and equal participation, coins were used to evaluate the balance of the students’ participation. After distributing a bag of coins to each pair, the instructor asked the students to write the number of 20 coins each student had taken out of the bag on the worksheet when they used Japanese phrases, and told them that the pair who completed the task with least mistakes and used more coins equally would win (See Appendix G for a detailed procedure of this activity). This calendar dictation activity was useful to promote the use of phrases, as it is difficult to comprehend Japanese dates due to similar pronunciations for different dates (e.g., 4th is pronounced as yokka and 8th as youka).

Week 3: Awareness raising

Training

1. To raise students’ awareness of the importance of regularly reviewing lessons.

2. To have students recognize that organizing their time with peers outside of class is important to increase opportunities for interaction in Japanese.

Practice

1. To practise the use of the te-form to describe ways to review Japanese with peers.

2. To translate English into Japanese.

In week 3, the instructor presented how to manage the time for language learning with peers. The instructor introduced data which demonstrated how regular reviews can help learners maintain a high recall level (G. Ellis & Sinclair, 1989), and emphasized the importance of reviewing with peers outside of class in order to facilitate language learning (Gardner & Miller, 1996). In the activity, pairs had an opportunity to practise
the use of the te-form to express how to review Japanese with peers outside of class by translating English into Japanese.

**Week 4: Reinforcement**

**Training**

1. To reinforce students' use of social interaction skills.
2. To reinforce balanced turn taking.

**Practice**

1. To make up dialogues asking and giving explanations by using the ndesu-form.
2. To provide extended practice using useful expressions.

Training for week 4 reinforced the students' use of essential phrases for collaboration. The instructor put the poster up on the blackboard, and the learners reviewed the phrases. The aims of the task were to make up dialogues asking for reasons (using "why" in Japanese), and answering the reason (using "because" in Japanese). The instructor encouraged the learners to use the phrases when they encountered communication problems. In order to promote maximum and equal participation, once again coins were used to evaluate the balance of the students' participation.

**Week 5: Review and Consolidation**

**Training**

1. To review the value of group work.
2. To consolidate the use of social interaction strategies with balanced turns.

**Practice**

1. To discuss listening problems in pairs by using the essential phrases.
2. To review vocabulary.
The purpose of training for week 5 was to review and consolidate the value of social interaction strategies. After reviewing vocabulary (i.e., nouns, verbs, and particles) in class, the learners listened in pairs to four sets of dialogues from a tape. In conversations, a magazine reporter interviewed pedestrians asking what days of the week they had off and how they spent their days off. After listening to the tape twice, the student pairs discussed what they understood and what they did not. The worksheet was then submitted for the instructor's feedback.

Stage 4: Posttest

The fourth stage required the implementation of a posttest using a postdictogloss (See Appendix E) of approximately 50 minutes. The posttest was necessary to examine the influence of training on learners' interaction strategy use. The same procedure of data collection as the pretest was conducted for the posttest.

Stage 5: Postintervention Questionnaire

The fifth stage involved the administration of the postintervention questionnaire (See Appendix D). Data from the postintervention questionnaire helped evaluate how learners' attitudes, preferences, and beliefs on pair work changed after training with practice. At this stage, student information on their L1 language background, the first-term grade, and the site of their high school were collected from the administration of the department. Data on subjects' familiarity with group work were collected in the preintervention questionnaire. The information was used to assess how cultural and educational background, as well as language proficiency and group work familiarity, would influence learners' collaboration and language output in this study. Differences between the two groups after training with practice were of particular interest in the analyses.
Instrumentation

The transcripts of audio-taped data were coded for c-units (Brock, 1986; Crookes, 1990), LREs (Kowal & Swain, 1994), and CD (Bejarano et al., 1997) to determine the impact of training and to analyze Asian learners' interaction in pairs with collaborative tasks (See Appendix B for a complete description of these measurements and examples). The c-units were used to determine the frequency of speech production in the transcripts from pre- and posttests. LREs were used to classify learners' dialogue when they had problems. CD was used to examine the effectiveness of learners' social-interaction strategy use. The final draft scores were used to examine learners' accomplishment of the tasks in pairs. The questionnaires for this study were adopted from Roskams' (1999) pre- and postcollaboration questionnaires.

Audio-taped Data

*Communication units (c-units)*

The number of c-units was counted to measure the frequency of the learners' language production in pairs. The c-unit was defined by Brock (1986) as independent utterances (e.g., words, phrases, and sentences, grammatical and ungrammatical) which provide referential or pragmatic meaning. The c-unit is one of the two measures (i.e., the other is the T-units) for speech production most widely used in studies. While the T-units were originally designed for the assessment of written English, the c-units were more sensitive to the transmission of meaning and a more appropriate measure for an investigation into oral language. Moreover, the c-units were likely suitable to code Japanese sentence, which is normally ungrammatical (e.g., the subject omission frequently occurs) compared to English sentence. The c-units produced by individuals
were also used to examine how the pairs' balanced or unbalanced turns would influence the quantity and quality of output. See Appendix B for more detail and an example.

**A model for LREs**

The descriptive categories of Language Related Episodes served to classify learners' dialogue when they had problems during reconstruction stage. Following Kowal and Swain's (1994) categories, LREs were organized into meaning-based, grammatical, and orthographic episodes. Representative examples of LREs are shown in Appendix B. This classification allowed the researcher to measure the frequency of LREs; more specifically, to identify which of the three episodes Asian learners more frequently discuss in pairs. For the purpose of analyzing Japanese dialogue, this study used the classification which was used by Haneda (1996) for her subjects in JFL. See Appendix H for a blank chart.

**A model for CD**

Social-interaction strategies appearing in collaborative dialogues were coded for five types of substrategies: elaborating, facilitating of the flow of conversation, responding, seeking information or an opinion, and paraphrasing (for a complete description of the category and examples, see Appendix B). These categories for social-interaction strategies were used by Bejarano et al. (1997), who investigated the effectiveness of training to improve communicative interaction during group work in an EFL classroom. According to Bejarano et al., these are necessary to maintain the flow of a cohesive and coherent group discussion. By using these strategies, students could react to each other and relate to what other members in the group said, rather than deliver their own independent or unrelated short speeches, which resulted in noninteraction participation.
The Final Draft

The final draft written for the pre- and posttest by pairs was rated on a 5-point scale (i.e., 1 representing very poor performance and 5 representing excellent performance) on five dimensions: content, organization, vocabulary, morphology, and syntax, based on the methodology proposed in Swain and Lapkin’s (1998) study. The criteria for the final draft's rating scale was developed by the researcher (See Appendix I for a complete description of the criteria for the rating scale) for the purpose of written Japanese language evaluation. The c-units were also identified as a rough measure of the length of written draft. These analyses facilitated examination of relationship between the quality of draft and the groupings, the frequency of LREs, and CD in pairs.

Questionnaires

The students’ self-administered pre- and postintervention questionnaires were adopted from Roskams’s (1999) pre- and postcollaboration questionnaires, which examined Chinese EFL students’ attitudes to peer feedback and peer assessment in an extended pair work setting. Modifications were made in order to make the questionnaires more appropriate for this study. The questionnaires consisted of two parts: multiple choice questions (Part I), and a yes/no question and open ended questions (Part II). In Part I, a 4-point scale was used to evaluate learners’ perception of pair work (Statements 1~3, 5, 7, and 9), learners’ beliefs on teacher and peer feedback (Statements 4 and 10), preferences on the frequency of changing partner (Statements 6 and 8), how to choose a partner (Statement 11), learners’ perception of difficulty when working in pairs (Statement 12), and learners’ preference of learning style (Statement 13). Part II asked the learners: whether or not the learners plan (in preintervention questionnaire) and
planned (in postintervention questionnaire) to work in pairs to accomplish assignments outside of class (Question 1); how long the learners spend (in preintervention questionnaire) and spent (in postintervention questionnaire) to work with their assigned partner outside of class per week (Question 2); to express their positive comments (Question 3); and to express their negative comments (Question 4).

Informal Observations

Informal observation for the comparison group, taught by the coordinator, was made based on the following criteria: classroom organization, time distributions, the dynamics of classroom communication (i.e., teacher-learner, and learner-learner interaction), teaching methodology, and lecture content. These criteria were selected as sources of observation data to keep the experiences of both the treatment and comparison groups identical except for the training. The focus was on the dynamics of classroom communication to closely examine learners’ interaction in both groups.

Data Analysis

Influence of Training

To determine the influence of training, it was necessary to compare data from the treatment group, in which learners received training, and data from the comparison group, in which learners did not receive training.

The learners’ dialogues in their L1 (i.e., Cantonese and Mandarin) were first translated into English by a native speaker of Cantonese and a native speaker of Mandarin respectively. Then, the transcriptions with the audio-tape were verified by the second translator, who was a speaker of Cantonese, Mandarin, and Japanese.
Transcriptions and final drafts from 24 students working in 12 pairs in which students participated in both pre- and posttests were analyzed. First, raw data of the c-units, LREs, CD, and the final draft score from pairs for pre- and posttests were tabulated to describe subtle differences which tend to be obscured by complex statistical computations. Second, the following statistical procedures were used to determine the influence of training:

1. descriptive statistics to describe a body of data (i.e., a mean, a standard deviation, and a score range) for both groups for pre- and posttests.

2. t tests to identify significant differences between pre- and posttests scores within the same group.

3. t tests to identify significant differences between the treatment group and the comparison group in terms of changes in the pre- and posttest scores.

The responses to pre- and postintervention questionnaires collected from all the participants in the treatment group and the comparison group were compared to examine the influence of training regarding learners' attitudes, beliefs, and preferences on pair work.

Audio-taped Data

The number of c-units, LREs, and CD produced by individual learners was counted and organized into a chart, *Number of c-units, LREs & CD produced by each student* (see Appendix H for a blank chart). These data allowed the researcher to analyze how much and which LREs and CD individual learners produced as well to evaluate a balance of c-units and CD in pairs. A good balance of language production in pairs
indicated equal participation, which is an element of meaningful communication (Bejarano et al., 1997).

The amount of language production in each category carried out through pairs was recorded in a chart, *Number of c-units, LREs, and CD in pairs* (see Appendix H for a blank chart) to compare the frequency of production in each category by a pair.

The pre- and posttests scores within the same group and the differences between the treatment group and the comparison group were compared to determine the influence of training to the frequency of language production, LREs, and CD.

**Final Draft**

The final draft was scored by a 5-point scale (see Appendix I for a complete description of the final draft rating scale). The pre- and posttest scores within the same group and the differences between the treatment group and the comparison group were compared to determine the influence of training. Also, the final draft was compared with students’ information on groupings, the frequency of LREs, and the frequency of CD to determine relationships between these factors and the quality of the final draft.

**Questionnaires**

The students’ responses in the comparison and the treatment groups to both pre- and postintervention questionnaires were analyzed to determine how training with practice affected learners’ attitudes, beliefs, and preferences on pair work. The statements in Part I were classified into five categories (i.e., learners’ perception of pair work, learners’ beliefs on teacher and peer feedback, preference on partners, learners’ perception of difficulty when working in pairs, and learners’ preference of learning style
in the classroom). Learners' responses from both groups to the statements 1-10 in pre- and posttests were compared and presented in bar graphs. Since a 4-point scale was not likely to be an equal-interval indicator that reflected each individual's attitude (Hatch & Lazaraton, 1991) toward pair work, the mean and standard deviation are not appropriate statistics for this case. The numbers on the value axis indicated what percentage of students in each group selected each answer. The numbers on the category axis reflected the learners' response to each statement (i.e., 1: Strongly Disagree; 2: Disagree; 3: Agree; 4: Strongly Agree). As the purpose of this figure was to determine whether or not learners were in favour of or against pair work on each category, the learners' responses of "strongly disagree" and "disagree" were combined as "disagree," and the responses of "agree" and "strongly agree" were combined as "agree". Also, differences between "strong agree" and "agree" as well as between "strong disagree" and "disagree" may be vague as some learners might have marked "agree" or "disagree" instead of "strongly agree" or "strongly disagree" out of their politeness to the researcher.

The learners' responses to statements 11 to 13 were ranked to show the majority of learners' preferences on choosing a partner, difficulty of pair work, and preference of groupings. The students' responses to questions 1 and 2 in Part II were analyzed and presented in pie charts. They show the treatment and comparison groups' plans for working with a partner outside of class every week. Their responses to the open-ended questions 3 and 4, were typed and collated to enrich the analysis and were used to support results of audio-taped data.
Asian Learners' Collaborative Learning in Pairs

To examine to what extent the two main theories (i.e., Output Hypothesis and the ZPD) were applicable for Asian learners, transcriptions of learners' dialogue produced during the reconstruction stage and their comments on pair work were analyzed according to these theories. To uncover Asian learners' perception on pair work, their responses from questionnaires were analyzed.

Output Hypothesis for Asian Learners

Analyses of transcriptions and learners' comments on pair work needed to be classified based on the roles of the Output Hypothesis (i.e., practising, noticing, and hypothesis-testing), in order to determine the extent to which the claimed benefits of the Output Hypothesis are effective for Asian learners and to examine how they perceive each role of the Output Hypothesis in pair work.

Vygotskian Perspective for Asian Learners

To examine the extent to which Asian learners engage in a higher cognitive system development (i.e., ZPD) during collaborative learning, the learners' dialogues were labelled and arranged on a scale of collaborative discourse following Haneda's (1996) study. The scale ranged from "knowledge transmission" at one end, to "learning from each other" at the more interactive end. According to Haneda, the "knowledge transmission" dialogue was "characterized by one person doing most of the work, providing most of the answers without much discussion or collaboration" (p. 113). As a result, learners showed little sign of cognitive development with their interaction. On the
other hand, "learning from each other" was characterized by both persons' collaboration throughout the process of passage reconstruction, and their equal contribution to the task completion (Haneda). Learners engaged in this type of dialogue showed signs of cognitive development in her study.

The pairs classified into these two scales were explored with several factors (i.e., learners' L1, Japanese language proficiency, group work familiarity, the number of solved problems, and the number of CD) in order to investigate the possible factors that might have led learners to achieve a higher cognitive system (i.e., problem solving skills in this study) during CL.

Students' information was used to examine how groupings influenced the frequency of LREs, the frequency of CD, and the quality of the final draft. The worksheet produced by learners in the treatment group during the training with practice stage was used to support data analysis as the process of their language development. Data from informal observation of both tutorials in the treatment and comparison groups were also collated to enrich the analysis.

Ethical Considerations

A number of ethical considerations were followed throughout this research study. There was a need to obtain all necessary permission prior to the commencement of the study. The research was developed and procedures were conducted according to the standards established by the Brock University Research Ethics Board and McMaster University Research Ethics Board (see Appendix C for letters of approval). The questionnaires and pre- and posttests conducted as part of the study required participants to reflect in ways they might not have otherwise done. This study began after obtaining
signed consent forms (see Appendix C) from participants. A few students who did not return consent forms were involved in the same instructional lessons, but their responses were used for classroom assessment purposes only (i.e., not in the research analysis).

All information given by participants (i.e., participants' responses to questionnaires, and audio tapes for pre- and posttests, along with transcripts and other records) were kept strictly confidential. None of the participants' names were identified in the results of this study. Upon the conclusion of the study, all information was shredded or deleted.

**Methodological Assumptions and Limitations**

A major assumption of this study was that there was tendency among Asian learners to have strong affinities for particular language learning beliefs due to their cultural and educational background, although individual learners' beliefs within the same group may vary. Another assumption was that self-claimed group work familiarity could be a reliable source to determine their group work familiarity. The only source used to determine learners' group work familiarity was the self-administered questionnaire, a 4-point scale was used, and the range was from 1 (not familiar at all) to 4 (very familiar) in this study. It was difficult to evaluate participants' familiarity with group work because individual learners may have different criteria for familiarity.

Learners' familiarity with group work may vary within the same range or out of the range. For instance, although all of the participants were exposed to CL throughout the first term, some learners claimed their group work familiarity as 1 (i.e., not familiar at all).

There were some methodological limitations to the study that had to be acknowledged. One was the limited period of time allocated to determine the effects of
CL training in this study. A longer period of training might have yielded different results. Also, the effects of training may not have emerged immediately after training, but later. Follow-up interviews might have given additional insights into the effects of CL training.

Another limitation was that having different instructors in treatment and comparison groups might have raised concerns about influencing results of the study due to a possibility of different instructions in both groups. However, this researcher took precautions to keep the experiences of both the treatment and comparison groups identical except training with practice, by observing classes in the comparison group taught by the coordinator and by having weekly meetings with the coordinator to minimize the difference in the instruction between the two groups. On the other hand, having different instructors in both groups actually prevents researcher effect because, if the same instructor had taught both groups, s/he could have inadvertently influenced results due to preferential treatment or through reinforcing behaviour.

Another limitation was related to research design. Quasi-experimental designs were employed for this study because random selection of participants was not feasible. Quasi-experimental designs lack at least one of the other two properties that characterize true experiments, randomization or a control group. For instance, the two groups might not have been necessarily the same before any treatment took place and might differ in important ways that influence what progress they were able to make. If it was found that the students in the comparison groups performed better, there was no way of determining if they were better prepared or better communicators even before the program and/or whether other factors were influential to their growth. However, the nonequivalent group, pretest-posttest design partially eliminated a major limitation of Quasi-experimental designs. At the start of the study, the researcher empirically assessed the
differences in the two groups on the pretest. Therefore, if the researcher found that one group performed better than the other on the posttest, she can rule out initial differences and their development as explanations for the differences. In addition, the learners’ responses to the questionnaires provided more accurate interpretation of results.

Finally, there were concerns with subject effects, in that the knowledge that they were being tested their utterances (by having the researcher/recorder present) might have had an effect on their behaviour. For example, the students did not willingly talk, knowing that their utterances were being tape recorded. However, during recording sessions, the researcher closely monitored the students’ dialogue, asking general questions (e.g., “How is it going?” “Do you have any questions?”) to encourage students who had difficulty talking in front of a tape recorder. Participants might also have hesitated to criticize the pair work arrangement, as their name was included on the questionnaire. To avoid their false comments on the pair work, it was clearly stated on the consent form and orally that their comments would not affect their course grade.
CHAPTER FOUR: FINDINGS

Overview

This chapter presents the findings of the study. Findings follow the sequence of the research questions. The two prime research questions designed to accomplish the purpose of this investigation include: to examine the effect of training; and to explore Asian learners’ collaborative learning (CL) in a JFL classroom. To determine the influence of training, the frequency of c-units, LREs, CD from audio-taped data, the quality of the final draft, and the learners’ numerical responses from questionnaires were statistically analyzed. To investigate Asian learners’ CL, the transcripts from audio-taped data, students’ information, their responses and comments from questionnaires, and informal observations were descriptively analyzed. A number of techniques were then instrumented to analyze these data. Because there are considerable amount of data summarized in tables and figures, most of them were included in Appendix K to maintain a flow of writing. Throughout the chapter, appendix references are provided for the reader’s convenience.

Influence of Training

1. To what extent does training with practice affect Asian learners’ attitudes towards and interaction during collaborative learning?

Overall, this study found that training had significant influence on the frequency of CD and impacted on the draft scores, although little influence of training was observed on the frequency of c-units and LREs. Meanwhile, the results from the questionnaires in the treatment group showed some positive changes in the learners’ beliefs on and attitude towards pair work after training.
null
The 24 students who participated in both the pre- and posttests were grouped into 12 pairs. Table 3 presents the pairing information, including the learners’ gender, L1, Japanese proficiency, and group work familiarity. In relation to their group work familiarity and as a rough indication of English proficiency, learners’ background education (i.e., high school location) is also included in Table 3. The audio-taped data were transcribed to identify the number of c-units, Language Related Episodes (LREs) and Collaborative Dialogue (CD). The final drafts were scored by a 5-point scale (See Appendix I for a complete description of the rating scale). Table 6 (see Appendix K) presents the raw data of c-units, LREs, CD, and the final draft scores in pairs for pre- and posttests. Arabic numerals under “Pair” represent the pair numbers. The six pairs in the treatment group were numbered from 1 to 6. The other six pairs in the comparison group were numbered from 7 to 12. The alphabetical characters under “Student” represent individual learners. The number of c-units and CD produced by individual learners were identified to examine the balance of speech production and CD made by each pair. The number of LREs discussed and draft scores achieved by each pair but not by individual were identified due to nature of these data. These data were examined with the following statistical procedures to determine the influence of training:

1. descriptive statistics to describe a body of data (i.e., a mean, a standard deviation, and a score range) with both groups for pre- and posttests;

2. t tests to identify significant differences between pre- and posttest scores within the same group;

3. t tests to identify significant differences between the treatment group and the comparison group in terms of the changes in the pre- and posttests.
Table 3

Learner's L1, Proficiency, and Group Work Familiarity

<table>
<thead>
<tr>
<th>Treatment Group: Tutorial #1 &amp; Tutorial #5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair No.</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

Comparison Group: Tutorial #6

<table>
<thead>
<tr>
<th>Pair No.</th>
<th>Student Gender</th>
<th>L1 Language</th>
<th>Japanese proficiency</th>
<th>Group work familiarity</th>
<th>Educational background</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>M M</td>
<td>Mandarin</td>
<td>A+</td>
<td>3</td>
<td>Canada</td>
</tr>
<tr>
<td>7</td>
<td>N M</td>
<td>Mandarin</td>
<td>B</td>
<td>3</td>
<td>Canada</td>
</tr>
<tr>
<td>8</td>
<td>O M</td>
<td>Mandarin</td>
<td>B+</td>
<td>4</td>
<td>Canada</td>
</tr>
<tr>
<td>8</td>
<td>P M</td>
<td>Mandarin</td>
<td>B</td>
<td>3</td>
<td>Taiwan</td>
</tr>
<tr>
<td>9</td>
<td>Q F</td>
<td>Cantonese</td>
<td>A+</td>
<td>4</td>
<td>Canada</td>
</tr>
<tr>
<td>9</td>
<td>R M</td>
<td>Cantonese</td>
<td>A+</td>
<td>4</td>
<td>Canada</td>
</tr>
<tr>
<td>10</td>
<td>S M</td>
<td>Cantonese</td>
<td>A+</td>
<td>4</td>
<td>Canada</td>
</tr>
<tr>
<td>10</td>
<td>T M</td>
<td>Cantonese</td>
<td>C-</td>
<td>4</td>
<td>Hong Kong</td>
</tr>
<tr>
<td>11</td>
<td>U F</td>
<td>English</td>
<td>A+</td>
<td>4</td>
<td>Canada</td>
</tr>
<tr>
<td>11</td>
<td>V M</td>
<td>Cantonese</td>
<td>B</td>
<td>2</td>
<td>Hong Kong</td>
</tr>
<tr>
<td>12</td>
<td>W F</td>
<td>Cantonese</td>
<td>A-</td>
<td>1</td>
<td>Hong Kong</td>
</tr>
<tr>
<td>12</td>
<td>X F</td>
<td>Cantonese</td>
<td>A-</td>
<td>2</td>
<td>Hong Kong</td>
</tr>
</tbody>
</table>

Japanese proficiency criteria (based on the grade in the first-term): A (80-100); B (70-79); C (60-69); D (below 59). Group work familiarity is a self-report measure on the preintervention questionnaire: 4 = very familiar; 3 = familiar; 2 = not very familiar; 1 = not familiar at all. The location of high school is presented as an indicator of their general educational background.
The responses to pre- and postintervention questionnaires collected from all participants in the treatment and comparison groups were compared to examine the training influence with the learners’ attitudes, beliefs, and preferences to pair work.

Number of Communication Units (C-Units)

a. To what extent does training influence the quantity of language production?

The number of c-units was counted to measure the frequency of the learners’ language production in pairs. The number of c-units produced by individuals for pre- and posttests is shown in Table 6 in Appendix K. The transcriptions showed 341 c-units in the pretest and 546 c-units in the posttest for the treatment group; 369 c-units in the pretest and 579 c-units in the posttest for the comparison group. Larger numbers of c-units were identified for the comparison group than for the treatment group in both the pre- and posttests.

Table 7 in Appendix K represents descriptive statistics for pre- and posttests with the treatment group and the control group. C-units produced in pretests by the treatment group ranged from 3 to 53, with a mean of 28.42 and a standard deviation of 17.30. C-units produced in posttests ranged from 11 to 83, with a mean of 45.5 and a standard deviation of 21.80. C-units produced in pretests by the comparison group ranged from 3 to 56, with a mean of 30.75 and a standard deviation of 16.68. C-units produced in posttests ranged from 18 to 80, with a mean of 48.25 and a standard deviation of 23.07.

Table 7 (Appendix K) shows t tests for the data. t tests were carried out to determine whether or not there were significant mean differences between pre- and posttest data in each group. There were statistically significant differences in the number of c-units between pre- and posttests in both groups. The difference in the treatment
group was significant at a higher level ($t = -4.88, p < .001$) than in the comparison group ($t = -3.10, p < .05$).

Table 8 in Appendix K presents $t$ tests which were performed to determine if there were significant mean differences in the changes of the number of c-units between the treatment group and the comparison group. There were no significant differences in the changes of the number of c-units between the treatment group and the comparison group.

**Frequency of Language Related Episodes (LREs)**

**b. To what extent does training influence the frequency of LREs in pairs?**

The frequency of LREs was used to identify and classify problems discussed by each pair. The number of LREs for the pre- and posttests is shown in Table 6 in Appendix K. The transcriptions reflected 33 LREs in the pretests and 40 LREs in the posttests were identified for the treatment group; 34 LREs in the pretests and 42 LREs in the posttests were identified in the comparison group. A larger number of LREs was identified for the comparison group than for the treatment group in both the pre- and posttests.

Table 9 in Appendix K shows descriptive statistics for the pre- and posttests of the treatment and control groups. The frequency of LREs produced in the pretest by the treatment group ranged from 0 to 12, with a mean of 5.5 and a standard deviation of 4.97. The frequency of LREs produced in the posttest ranged from 2 to 14, with a mean of 7.5 and a standard deviation of 4.28. LREs produced in the pretest by the comparison group ranged from 0 to 12, with a mean of 5.67 and a standard deviation of 4.03. LREs produced in the posttest ranged from 0 to 16, with a mean of 7 and a standard deviation of 5.73.
Table 9 (Appendix K) presents t tests for the data. t tests were carried out to determine whether or not there were significant mean differences between the pre- and posttest data in each group. There were no significant differences in the frequency of LREs between the pre- and posttests in both groups.

Table 10 in Appendix K shows t tests which were performed to determine if there were significant mean differences with the changes of the frequency of LREs between the treatment and comparison groups. There were no significant differences in the changes of the number of LREs between the two groups.

**Frequency of Collaborative Dialogue (CD)**

c. To what extent does training influence the frequency of collaborative dialogue?

The frequency of CD was used to examine the effectiveness of learners’ social-interaction strategy use. The number of CD produced in pairs for the pre- and posttests is shown in Table 6 (Appendix K). The transcriptions reflected 85 CD in the pretests and 128 CD in the posttests for the treatment group; 92 CD in the pretests and 115 CD in the posttests for the comparison group.

Table 11 in Appendix K presents descriptive statistics for the pre- and posttests for the treatment group and the control group. The frequency of CD produced in the pretests for the treatment group ranged from 1 to 14, with a mean of 7.08 and a standard deviation of 3.80. The frequency of CD produced in the posttests ranged from 1 to 27, with a mean of 10.67 and a standard deviation of 8.19. The frequency of CD produced in the pretests for the comparison group ranged from 1 to 18, with a mean of 7.83 and a standard deviation of 6.44. The frequency of CD produced in the posttests ranged from 1 to 20, with a mean of 9.58 and a standard deviation of 6.27.
T test were performed to determine whether or not there were significant mean differences between the pre- and posttest data in each group. Table 11 (Appendix K) shows that the difference in the frequency of CD between the pre- and posttests in the treatment group was statistically significant ($t = 2.61, p < .05$). There were no significant differences in the frequency of CD between the pre- and posttests in the comparison group.

T tests were carried out to determine if there were significant mean differences in the frequency changes of CD between the treatment group and the comparison group. Table 12 in Appendix K shows that there were no significant differences in changes of the frequency of CD between the treatment group and the comparison group.

**Final Draft Scores**

**d. How does training affect the quality of the final drafts?**

The final draft scores were used to examine learners’ accomplishment of the tasks (i.e., dictogloss) in pairs. The final draft was scored according to a rating scale (See Appendix I) among three raters: two trained TAs and the researcher. When there was no consensus among the three raters, the average of the three raters’ scores was calculated (See Table 13 in Appendix K for raw data scores).

Table 14 in Appendix K summarizes differences in draft scores and the number of c-units in drafts between the pre- and posttests in both groups. In total, the draft scores in both groups improved during the posttest, while the score improved significantly in the treatment group rather than in the comparison group. In the treatment group, the draft score improved by 12%, from 109.5 in the pretest to 122.5 in the posttest. In the comparison group, the draft score improved by only 0.8%, from 118 in the pretest to 119
in the posttest. The number of c-units in both groups improved in the posttest, and the number increased more in the treatment group than in the comparison group. In the treatment group, the number of c-units increased by 53%, from 53 in the pretest to 81 in the posttest. In the comparison group, the number of c-units increased by 21%, from 62 in the pretest to 75 in the posttest.

Table 15 in Appendix K presents the descriptive statistics for the pre- and posttest for the treatment group and the control group. The pretest in final draft scores in the treatment group ranged from 12 to 23 with a mean of 18.25 and a standard deviation of 4.57. The posttest in final draft scores ranged from 14 to 25 with a mean of 20.42 and a standard deviation of 4.40. The pretest in final draft scores in the comparison group ranged from 13.5 to 24 with a mean of 19.67 and a standard deviation of 4.41. The posttest in final draft scores ranged from 14 to 24.5 with a mean of 19.83 and a standard deviation of 4.78. The mean in the posttest for the treatment group improved more (2.17) than in comparison group (0.16).

\[ t \text{ tests were performed to determine whether or not there were significant mean differences between pre- and posttest scores. Table 15 (Appendix K) shows that there were no significant differences between pre- and posttests in both groups in ttests, although the treatment group achieved a significantly higher difference than the comparison group in raw data.} \]

\[ t \text{ tests were performed to determine if there were significant mean differences in the changes of the final draft scores between the treatment and comparison groups. Table 16 in Appendix K shows that there were no significant statistical changes with mean differences between the comparison and treatment groups.} \]
Learners’ Attitudes, Beliefs, Preferences on Pair Work.

e. Does training affect learners’ attitudes, beliefs, and preferences on pair work?

The responses to pre- and postintervention questionnaires from all the participants in the treatment group and the comparison group were analyzed in order to determine whether or not training affects learners’ attitudes, beliefs, and preferences on pair work. Statements 1 to 10 in Part I of the questionnaires were designed to examine if training influences learners’ beliefs and preference on pair work. Each statement includes different beliefs and preference on pair work (i.e., Statement 1: Decision Making; Statements 2 & 4: Practice; Statement 3: Problem Solving; Statement 5: Memorizing; Statement 6: Working with the Same Partner Statement 7: Grade Improvement; Statement 8: Changing a Partner; Statement 9: Language Improvement; Statement 10: Teacher Feedback). Figure 3 in Appendix K shows changes in responses between pre- and postintervention questionnaires on pair work, comparing the treatment group with the comparison group. Statements 11 to 13 in Part I of the questionnaires were designed to rank learners’ preferences on choosing a partner (Statement 11), beliefs on difficulty of pair work (Statement 12), and preferences on group formations and classroom activities (Statement 13). Table 17 in Appendix K shows the rankings by their responses to the statements 11 to 13.

Part II of the questionnaires examined if training influences learners’ attitude towards pair work and comments on pair work. Part II consists of questions asking if learners plan (in preintervention questionnaire) or planned (in postintervention questionnaire) to work in pairs to accomplish assignments outside of class (Question 1), how much learners spend (in preintervention questionnaire) or spent (in postintervention questionnaire) to work with their assigned partner outside of class per week (Question 2),
learners’ positive comments (Question 3), and negative comments (Question 4). Table 18 in Appendix K summarizes learners’ responses to the questions 1 and 2 in Part II. Figure 4 in Appendix K shows these data in pie charts, comparing the responses from the treatment group with the comparison group for pre- and postquestionnaires. Learners’ comments to questions 3 and 4 were examined to determine if training influenced their comments on pair work.

**Learners Responses to Statements 1 to 10**

**Statement 1: Two people can make better decisions than an individual.**

More significant changes in the responses for the postintervention questionnaire were found in the treatment group than in the comparison group. Figure 3 (Appendix K), Statement 1 shows learners’ responses to the statement: 25% of the students in the treatment group, and 10% of the students in the comparison group disagreed, while 75% of the students in the treatment group and 90% of the students in the comparison group agreed with the statement in the preintervention questionnaires; 5% of the students in the treatment group, and 10% of the students in the comparison group disagreed, while 95% of the students in the treatment group and 90% of the students in the comparison group agreed with the statement in the postintervention questionnaire; 20% of the learners in the treatment group changed their opinion from “Disagree” to “Agree” after training. No significant changes were observed in the comparison groups’ responses between the pre- and postintervention questionnaires. Overall, more than 90% of the learners in both groups agreed to Statement 1 in the postintervention questionnaire.
Statement 2: Practising spoken Japanese with my partner was more comfortable than practicing with my teacher.

More significant changes in the responses for the postintervention questionnaire were found in the treatment group than in the comparison group. Figure 3 (Appendix K), Statement 2 shows learners' responses to the statement: 40% of the students in the treatment group, and 20% of the students in the comparison group disagreed, while 60% of the students in the treatment group and 80% of the students in the comparison group agreed with the statement for the preintervention questionnaires; 25% of the students in the treatment group and 15% of the students in the comparison group disagreed, while 75% of the students in the treatment group and 85% of the students in the comparison group agreed with the statement for the postintervention questionnaire; 15% of the students in the treatment group changed their responses from “Disagree” to “Agree,” while little change was observed with the comparison group.

Statement 3: I can solve problems more quickly alone than with my partner.

The change in both groups' responses to statement 3 contradicted each other. Unlike other statements, “Disagree” indicates positive perception with pair work for this statement. Figure 3 (Appendix K), Statement 3 shows learners' responses to the statement: 80% of the students in the treatment group and 60% of the students in the comparison group disagreed, while 20% of the students in the treatment group and 40% of the students in the comparison group agreed with the statement for the preintervention questionnaires; 50% of the students in the treatment group and 65% of the students in the comparison group disagreed, while 50% of the students in the treatment group and 45% of the students in the comparison group agreed with the statement for the postintervention questionnaire; 30% of the students in the treatment group changed their responses from
“Disagree” to “Agree,” while 5% of students in the comparison group changed their responses from “Agree” to “Disagree.”

Statement 4: I prefer to practise Japanese with my instructor rather than with my partner, because the instructor’s feedback was more helpful.

Like Statement 3, “Disagree” indicates positive belief on pair work for this statement. Figure 3 (Appendix K), Statement 4 shows learners’ responses to the statement: 20% of the students in the treatment group and 30% of the students in the comparison group disagreed, while 80% of the students in the treatment group and 70% of the students in the comparison group agreed with the statement for the preintervention questionnaires; 35% of the students in the treatment group and 50% of the students in the comparison group disagreed, while 65% of the students in the treatment group and 50% of the students in the comparison group agreed with the statement for the postintervention questionnaire; 20% of the students in both groups changed their responses from “Agree” to “Disagree” in the postintervention questionnaires; however, more students in the treatment group (65%) agreed with this statement than in the comparison group (50%) in the postintervention questionnaire.

Statement 5: Memorizing Japanese words is easier if I practise with a partner rather than alone.

Figure 3 (Appendix K), Statement 5 reflects similar responses from both groups: 35% of the students in the treatment group and 45% of the students in the comparison group disagreed while 65% of the students in the treatment group and 55% of the students in the comparison group agreed with the statement for the preintervention questionnaires; 20% of the students in the treatment group and 25% of the students in the comparison group disagreed, while 80% of the students in the treatment group and 75% of the
students in the comparison group agreed with the statement for the postintervention questionnaire.

**Statement 6: I like the idea of working with the same partner for the whole term.**

Learners’ responses from each group showed a marked contrast. Figure 3 (Appendix K), Statement 6 shows learners’ responses to the statement: 0% of the students in the treatment group and 55% of the students in the comparison group disagreed, while 100% of the students in the treatment group and 45% of the students in the comparison group agreed with the statement for the preintervention questionnaires; 10% of the students in the treatment group and 30% of the students in the comparison group disagreed, while 90% of the students in the treatment group and 70% of the students in the comparison group agreed with the statement for the postintervention questionnaire. The learners’ preference on working with the same partner greatly varied between the two groups.

**Statement 7: Working with a partner will lead to a better grade than working alone.**

Both groups showed similar responses to Statement 7. Figure 3 (Appendix K), Statement 7 indicates learners’ responses to the statement: 45% of the students in the treatment group, and 25% of the students in the comparison group disagreed, while 55% of the students in the treatment group and 75% of the students in the comparison group agreed with the statement for the preintervention questionnaires; 15% of the students in the treatment group and 10% of the students in the comparison group disagreed, while 85% of the students in the treatment group and 90% of students in the comparison group agreed with the statement for the postintervention questionnaire; however closer
examination pointed out that 30% of the learners in the treatment group changed their responses from "Disagree" to "Agree," whereas only 12% of the learners in the comparison group changed their responses in the same way.

**Statement 8: I like to change partners every time I work in pairs.**

Learners' responses showed important contrasts between the treatment and comparison groups. There were little changes in responses between the pre- and postintervention questionnaires from both groups. Figure 3 (Appendix K), Statement 8 indicates learners' responses to the statement: 85% of the learners in the treatment group and 50% of the learners in the comparison group disagreed for both questionnaires; 15% of the learners in the treatment group and 50% of the learners in the comparison group agreed for both questionnaires. The learners' preference on the frequency of changing partner greatly varied between the two groups.

**Statement 9: Working with a partner helps me improve my Japanese.**

Figure 3 (Appendix K), Statement 9 reflects similar responses from both groups: 15% of the students in the treatment group and 10% of the students in the comparison group disagreed, while 80% of the students in the treatment group and 90% of students in the comparison group agreed with the statement for the preintervention questionnaires; 10% of the students in the treatment group, and 5% of the students in the comparison group disagreed, while 90% of the students in the treatment group and 95% of students in the comparison group agreed with the statement for the postintervention questionnaire.

**Statement 10: The teacher can provide much more useful comments on their work than other students in their class.**

Both groups showed similar responses to Statement 10. Figure 3 (Appendix K), Statement 10 indicates learners' responses to the statement: 5% of the students in the
treatment group and 0% of the students in the comparison group disagreed while 95% of the students in the treatment group and 100% of the students in the comparison group agreed with the statement for the preintervention questionnaires; 10% of the students in the treatment group and 5% of the students in the comparison group disagreed while 90% of the students in the treatment group and 95% of the students in the comparison group agreed with the statement for the postintervention questionnaire. No significant differences between the two groups were observed. Overall, more than 90% of the students in both groups agreed with the statement for both questionnaires.

In summary, study participants' awareness on pair work appeared to be improved by training. Some significant impacts of training were observed on decision making (S1), practising the TL with a peer (S2), problem solving (S3), and grade improvement (S7). No significant impacts of training were observed on practising the TL with the teacher (S4), memorizing (S5), improving the TL (S9), and teacher feedback (S10). Responses to the statements regarding preference on working with the same partner (S6) and changing a partner (S8) showed significant differences in the treatment and comparison groups. No impact of training was observed in the responses to these preferences.

**Rankings of Preference and Difficulty for Pair Work**

Statements 11 to 13 in Part I of the questionnaires were designed to rank learners' preferences in choosing a partner (Statement 11), beliefs on difficulty of pair work (Statement 12), and preferences on group formations for classroom activities (Statement 13). Table 17 (Appendix K) summarizes the rankings based on the learners' responses to statements 11 to 13. Overall, rankings of their view on partner selection, the difficulty of pair work, and group formation for classroom activities showed minor changes in the postintervention questionnaire.
Ranking of preference in choosing partner

The questionnaire data on rankings are presented in Table 17 (Appendix K). A minor change was observed in ranking of their preferred choice of partners in the treatment group between the pre- and postintervention questionnaires. Both options of “a partner the teacher chooses” and “a partner who shares my cultural background” were ranked as the second choice by the treatment group in the preintervention questionnaire; in turn, they ranked “a partner the teacher chooses” as the third choice in the postintervention questionnaire. There were no ranking changes for both questionnaires in the comparison group.

Ranking of difficulty of pair work

Table 17 (Appendix K) shows that the learners in both groups selected “sharing the same quality (e.g., ability) of work” as the most difficult aspects of pair work among three options in the preintervention questionnaire. The option of “sharing the same quantity of work was very difficult” was also ranked as the best in the postintervention questionnaire. Accommodating differences in personalities or attitudes was reported as the least difficult in the postintervention questionnaire.

Ranking of preference in group formation for classroom activities

Table 17 (Appendix K) shows that “working in pairs” was ranked as the most preferable group formation in both groups for both questionnaires as opposed to “working alone.” Their rankings for the second to the least desirable options varied in both groups. The learners in the treatment group selected “small group work (about 3~4 people)” as the second preference for both questionnaires, but the learners in the comparison group selected it as one of the least desirable options along with “working alone” for the preintervention questionnaire. They selected “whole class discussions” as their second
choice for both questionnaires. "Working alone" was ranked as the least desirable option by both groups. "Listening to a lecture by a teacher" was selected as the second least desirable learning activity by the learners in the treatment group for both questionnaires, while the ranking moved from the second best for the preintervention questionnaires to the second lowest for the postintervention questionnaires in the comparison group.

Consequently, although the second to the least desirable rankings varied, the learners in both groups selected the same answer as their best option for each category in both questionnaires. They selected "a partner I choose" from ranking of preference in choosing a partner, "sharing the same quality of work was very difficult" from ranking of difficulty of pair work, and "working in pairs" from ranking of preference in group formation for classroom activities.

Learners' response to the questions in Part II

Part II of the questionnaires inquired about (a) learners' plans for working with their partner to accomplish their assignments, and (b) time spent working with a partner outside of class each week. The students' responses to questions 1 and 2 were analyzed to tabulate the difference between the treatment and comparison groups, before and after training, as presented in Table 18 (Appendix K). Figure 4 summarizes the data in pie charts, showing that 20%-25% more students in the comparison group planned to work in pairs to accomplish homework outside of the classroom, and more time was spent to work with a partner outside of class each week by the students in the comparison group.

In the treatment group, 68% of learners claimed that they planned to work in pairs to accomplish assignments outside of class on the preintervention questionnaire, and 59% of them indicated that they planned to work with their partners on the postintervention questionnaire. Meanwhile, 88% of learners in the comparison group claimed on the
preintervention questionnaire that they would plan to work in pairs outside of class, and
83% of them responded that they actually planned to work in pairs on the
postintervention questionnaire. The results showed that approximately 20% more
learners in the comparison group claimed that they expected to work in pairs on the
preintervention questionnaire, and 25% more students actually planned to work in pairs
outside of class for the postintervention questionnaires, compared to the learners in the
treatment group.

Moreover, the learners in the comparison group appeared to spend more time in
pair work outside of the class than did the treatment group: 35% of learners in the
comparison group and 19% of learners in the treatment group planned to spend more than
1 hour with their partner outside of class per week in the preintervention questionnaire.
53% of learners in the comparison group and only 14% of learners in the treatment group
in the postintervention questionnaire reported that they spent more than 1 hour with their
partner outside of class per week. All students in the comparison group spent some time
working with a partner outside of class. By contrast, 9% of students in the treatment
group indicated in the postintervention questionnaire that they did not spend time with a
partner outside of class.

Comments on pair work

Learners’ responses to questions 3 and 4 in Part II of the questionnaires examined
if training influenced their comments on pair work. The positive and negative comments
from 45 students on the pre- and postintervention questionnaires are organized in Table
19 (Appendix K). The difference between responses from the pre- and postintervention
questionnaires in both groups was on having a fun, memorizing and improving the TL.
While only one student in the treatment group and no one from the comparison group mentioned pair work effects on having fun in the preintervention questionnaire, 4 students in the treatment group said pair work was fun in the postintervention questionnaire. As analysis of dialogue transcriptions for the posttest denoted, 7 learners in the treatment group stressed that they were actually having fun with practising the TL in pairs, while 5 learners in the comparison group expressed the same comments.

There were no comments on memorizing from both groups in the preintervention questionnaire, but 4 students (3 in the treatment group and 1 in the comparison group) reported in the postintervention questionnaire that they could memorize Japanese words more easily by practising with a partner than by practising individually. One of them said that “Memorizing Japanese words was easier that [sic] I work [sic] with partner rather than alone”.

There were no comments from the treatment group on improving the TL with pair work in the preintervention questionnaire, but three learners expressed a positive view on improving Japanese through pair work on their postintervention questionnaires. Student A stated that “it was very interesting to learn in pairs in [sic] the reading and skits. I think it actually helped me to improve my spoken Japanese.”

Overall, a smaller number of negative comments on pair work were found in the postintervention questionnaire than the preintervention questionnaire from both groups’ responses.
Summary

The results from the pre- and posttests showed that training had significant influence on the frequency of c-units and CD, and considerable impact on the draft scores, although little influence on the frequency of LREs was observed. The results from the questionnaires in the treatment group showed positive changes the learners’ beliefs on pair work after training. There were tendencies among Asian learners to have strong affinities for particular language learning beliefs (e.g., respect the teacher’s comments); however, individual learners’ beliefs within the same group may vary as much as among learners in other countries.

Asian Learners’ CL in Pairs

2. How do Asian learners accomplish collaborative tasks in pairs?

To investigate individual Asian learners’ attitudes towards interaction during collaborative tasks, as well as to examine how they accomplish tasks in pairs, it was necessary to transcribe audio-taped data collected during the reconstruction stage. The learners’ dialogues in their L1 (i.e., Cantonese and Mandarin) were first translated into English by two native speakers of Cantonese and Mandarin respectively. Then, the transcriptions from the audio-tape were verified by the third translator, who was a speaker of Cantonese, Mandarin, and Japanese. Examples from the transcriptions are provided in this section. In the examples, the Arabic numeral indicates the turn number each learner took, and the letters from A to X denote individual learners’ assigned initials. The number of each pair and their assigned initials are indicated next to the example number. The asterisk indicates errors. English translations of the learners’ utterances in Japanese are enclosed in square brackets (i.e., [ ]), and the researcher’s comments are
null
enclosed in parentheses (i.e., ( )). To show the difference between the learners’ output in L1 and L2, the discourse in their L1 is underlined. The audio-taped data were organized using the two theories (i.e., the Output Hypothesis and the Vygotskian’s ZPD) as guidelines.

Results from data analysis indicate that the presupposed benefits of the Output hypothesis were not always relevant for Asian learners. Vygotsky’s concept of the ZPD largely depended upon groupings in this study. Only 5 out of 12 pairs showed signs of interaction that reflects higher order thinking. In spite of their reluctant performance, most Asian learners expressed a positive view of pair work.

Output Hypothesis for Asian Learners

a. To what extent are the claimed benefits of Output Hypothesis valid for Asian learners? More precisely, to what extent do they practise the TL, notice a gap, and hypothesis-test by feedback while engaging in form-focused tasks in pairs?

This section describes analysis of audio-taped data during the reconstruction stage based on the roles of the Output Hypothesis (i.e., practising, noticing, and hypothesis-testing) to answer research question “a”. In addition, the number of problems which were solved or not solved at each stage was collated to examine the process of learning.

Practising

Of the three functions, practising was most frequently observed in the learners’ dialogues. Repeating the same phrases or words more than twice was often identified as a strategy in each pair. The same passage was often reiterated by one learner or by both learners. The following is a typical example of practicing Japanese words and phrases by both learners.
Example 1 (Pair 6: K & L)

09 K: Imakara Michiko-san no [from now Michiko’s]...
10 L: Imakara
11 K: Michiko-san no
12 L: Michiko-san no
13 K: Uchi ni [to the house]...
14 L: Uchi ni...
15 K: Ittemo [if I go],
16 L: Ittemo, Ittemo
17 K: Ittemo ii desu ka [May I go]? Do you know what does this mean?
18 L: Ittemo, ittemo...is that asking something?

Student K and L’s exchange demonstrated that a portion of the passage in L2 was equally repeated by both parties. They noticed problems at turn 17 while practising by producing the TL. Among all pairs, this pair was the one that most frequently practised the TL through repetition, and the one that most frequently noticed problems. Learners also repeated the word or phrase with each other when both learners were uncertain in terms of the pronunciation and meaning of the TL. Moreover, they repeated the word or phrase when searching for the passages required after the word or phrase they produced, as seen in Example 2.

Example 2 (Pair 4: G & H)

04 G: Nan-ji ni [What time?]. What time?
05 H: Nan-ji ni....
06 G: Nan-ji ni *shimasuka [What time will we do]? I’m not sure...
07 H: Go-ji han [5:30]. Five thirty.
08  G:  Go-ji han?
09  H:  Yeah, go-ji han...go-ji han...go-ji han.

At turn 4, G was not sure how to continue after “nan-ji ni.” She stated the meaning of “nan-ji ni,” hoping her partner would have some suggestions. Student H did not know, so she just repeated G’s phrase. Repeating H’s words, G tested her hypothesis. At turn 7, H added to G’s utterance. H repeated the same word “go-ji han (5:30)” several times. H often repeated the same phrase several times when writing a draft. These repetitions by taking turns were found in dialogues by eight pairs (1, 3, 4, 5, 6, 8, 11, 12), although the number of repetitions varied from once to 22 times by each pair. A number of self-repetitions were also identified during the draft writing stage. The following example illustrates how H practised L2 by searching for meaning by herself.

Example 3 (Pair 4: G & H)

24  H:  Watashi no tanjoobi desu...kara...[Because...this is my birthday...] (She started writing). Watashi no tan, tan, tanjoobi...watashi no tanjoobi desukara, because this is my birthday...watashi no tanjoobi desukara, Toronto e itte, go to Toronto, then bangohan....

The data suggest that learners practised their output while writing their draft. They repeated a passage frequently, attempting to make it accurate during this stage, although no correlation was found between the number of repetitions and the final draft scores for accuracy. For instance, some pairs, which consisted of one higher proficiency learner and one lower proficiency learner, wrote accurate drafts. Despite most parts of such drafts being written by the expert learner without any discussions with the novice learner, they achieved high final draft scores without any repetitions, as can be seen in Pair 10’s draft.
score in Table 6 (Appendix K). A few pairs did not practice (i.e., repeat) the TL at all during this stage. Their data showed few LREs, and their drafts received low scores for accuracy.

Many learners seemed to enjoy practising speaking Japanese. On the other hand, learners repeated incorrect words which were found in many of the dialogues during the reconstruction stage, as Example 4 illustrates.

Example 4 (Pair 7: M & N)

01 M: Moshi moshi Michiko-san [Hello, Michiko]. *Konpowa [Good evening]. (correct form is Konbanwa.) Maikeru desu [this is Michael].

02 N: Aa, Maikeru-san, *konpawa [Ah, Michael, good evening!].

*Konpowa...*Konpawa?

03 M: *Konpowa.

04 N: *Konpowa. Then?

In turn 2, N was not sure if “Konpawa” was the appropriate word for this sentence, so he repeated to test if it sounded correct. In response, M suggested a wrong answer, and N accepted the word without question. Even though the word “konbanwa” (good evening) was introduced and practised in class during the warm-up session, both N and M were unable to retrieve the appropriate term.

Overall, Asian learners frequently practised the TL with a partner; however, many occasions were found that learners practised incorrect words repeatedly when the words were unknown for both of them. The correlation between the number of repetitions and the draft score for accuracy was not identified. Some pairs achieved high draft scores
when a higher proficiency learner completed the draft alone without any discussions with a novice learner.

**Noticing**

There were a number of incidences where learners noticed problems when producing the TL. This study found 149 LREs in which learners noticed problems during the reconstruction stage. The learners noticed problems through implicit or explicit peer feedback.

The following exchange shows that a peer’s implicit feedback solicited other’s attention on grammatical accuracy of the “te-form.”

**Example 5 (Pair 5: I & J)**

09 I: Toronto e ikimasu. Bangohan o tabemasu. Go to Toronto, and eat dinner.

10 J: Toronto e itte, bangohan o tabemasu [implicit corrective feedback].

11 I: Oh, Toronto e itte, bangohan o tabemasu.

12 J: Yeah, Toronto e itte bangohan o tabemasu.

At turn 9, student I stated two separate sentences, which were supposed to be connected into one sentence by using the “te-form”, and she provided an English translation. After that, J provided implicit corrective feedback. Then, student I noticed J’s feedback, and repeated it correctly. J once again repeated the sentence to confirm.

Only a small number of pairs (i.e., one third of the learners who noticed problems), however, could exchange appropriate feedback in order to solve the problems by themselves. Even though they noticed problems, just noticing was not enough to encourage the learners to proceed to the next step (i.e., hypothesis-testing function) when
they did not receive appropriate feedback. They quickly gave up searching for the correct word.

Example 6 (Pair 2: C & D)

23  C:  What is this?
24  D:  I don’t know how to write.
25  C:  What is next?
26  D:  Why you write the same sentence again and again?
27  C:  3 o’clock?
28  D:  This should be the first sentence. What is next?
29  C:  What is the sentence after “Yamada san”?

Students C and D noticed many problems, but they were not able to give each other appropriate feedback. They continued to ask each other questions in their L1 (i.e., Cantonese) without providing responses. Their final draft quality was low, as shown in Table 6 (Appendix K).

In the extreme cases, the learners’ feedback was disregarded, rejected, or it failed to be understood, as shown in the following example from the pretest.

Example 7 (Pair 4: G & H)

10  H:  Ja, soo shimasu. Ja, soo shimasu [I’ll do so].
11  G:  Ja, soo shimashoo [Let’s do so]?
12  H:  Maybe it’s O.K. Ja, soo shimasu.

At turn 10, H was testing her hypothesis, then G provided implicit feedback, but H did not pay attention to G’s feedback even though it was correct, and H persisted with her own idea and disregarded G’s feedback. Consequently, G and H failed to solve problems
successfully, even though one of the pair noticed the problem and provided appropriate feedback.

In many cases, learners noticed problems; however, two thirds of them did not receive correct feedback from peers, or just ignored it. As a result, they did not have the opportunity to succeed in hypothesis-testing or problem solving.

Analyzing

Example 8 illustrates how learners were engaged in the process of practising—noticing—analyzing (hypothesis-testing)—solving the problem.

Example 8 (Pair 5: I & J)

55  I: Tempura o tabetai...tabe, tabe, tabetai ... do you know what comes after tabetai (I want to eat tempura—she is searching for the polite form of “want to eat”)?

56  J: Oh, yeah. O tabetai *masu (“want to eat” in the incorrect form).

57  I: ... o tabetai masu?

58  J: Tabe masu (to eat)? Or tabetai *masu (want to eat)?

59  I: *Tabetai masu? No, tabemasu. We say tabemasu, but not tabetai masu. We have to put “desu” instead of “masu” to make it polite.

60  J: Tabetai desu? That sounds familiar. The part A was “ja, sooshimashoo [let’s do that]”.

Student I noticed her problem at turn 55. She forgot the polite form for “want to eat (tai-form).” J was not sure, but suggested a word “tabetai masu” in turn 56. It sounded incorrect to Student I. Student I then repeated the incorrect word with rising intonation at turn 57. The clarification request by Student I pushed J to seek more words from her existing knowledge in turn 58. This searching process appeared to encourage I
to solve the problem. Student I responded again by raising intonation with J’s utterance, and finally recalled the correct word, “tabe-tai desu,” in polite form in turn 60.

In this study, the TA’s feedback appeared to be useful for Asian learners to engage in complex thinking when neither learner had a solution for the problem. In Example 9, students E and F were unable to solve their problems, but Example 10 illustrates how they solved their problems with the TA’s assistance.

Example 9 (Pair 3: E & F)
08 E: Senshuu wa do...*kinakattan desuka? [Last week...did not come?]
09 F: ki, ko, *konagatta, *kinagatta (searching for the word for “did not come”)?
10 E: ki...ikimasu [to go] (produced an incorrect form, the polite present form instead of the negative past ndesu-form of “konakatta”)
11 F: kiku, iku...(still searching for the word)
12 E: What is the next one?

Both E and F did not know how to say the ndesu-form of the verb “konakatta [did not come]”, the past negative form of “kuru (to come).” Student F noticed that Student E produced the ndesu-form incorrectly at turn 8. Before both learners solved the problem, E suggested that they proceed to the next sentence in turn 12. However, they went back to this point later with the TA as below:

Example 10 (Pair 3: E & F)
62 TA: That’s right. Then, “you did not come to the party” wa Nihongo de?
63 F: *konagatta ndesuka?
64 E: kon na, kon na, kon na gatta...
The TA asked them how to say in Japanese, “why didn’t you come to the party?”

Students E and F started searching for the correct word by producing it. With the TA’s support, E and F continued to test various hypotheses until finding the correct one.

Example 11 illustrates how the TA’s feedback can be variable when compared to Example 10.

Example 11 (Pair 1: A & B)

A: Itandesu [existed].
B: Atama ga [my head is], blah, blah, blah...itai [painful].

21 B: Atama ga [my head is], blah, blah, blah...itai [painful].
22 TA: Use past tense here. My head was painful, not my head is painful [my head is aching].
23 A: Itandesu [existed].
24 TA: Itandesu? No. Itandesu is the n-desu-form for “existed.”
25 A: Ita...Ita...
26 TA: What is the past tense of itai?
27 A: Ita...itakatta...itakatta.
28 TA: Right. Now, how do you make the n-desu form of itakatta, (which is) i-adjective?
29 A: Add n-desu to the plain/past form of i-adjective...itakattan desu [was painful].
30 TA: Yes, that’s correct. Itakattan desu.
When the TA provided the form-focused feedback to B at turn 22, Student A responded with an incorrect answer. With the TA’s continued form-focused feedback, A’s search for the correct form succeeded at turn 29.

Although the TA’s help seemed to promote their language practice, not many learners in this study explicitly asked the TA for help despite her encouragement to do so. The following example suggests how Asian learners are shy to ask the TA for assistance.

Example 12 (Pair 1: A & B)

13  A: Senshuu wa...*doshite...Oh, *doshite, paatii ni i..ki..ma...Senshuu wa *doshite, paatii ni ikima...(making eye contact with the TA)


15  A: Dooshite?

16  TA: That’s right. Dooshite.

When Student A encountered a problem at turn 13, she did not verbally ask for help from the TA, but used “Asian-style” eye contact while repeating the same phrase.

At the hypothesis-testing stage, two thirds (98 out of 149) of the LREs were not solved correctly by learners’ discussion with a partner. The TA’s assistance was found to be a useful tool for pairs which did not have consensus or no solution for problems. Learners appeared to be engaged in complex thinking by the TA’s help. Most of the time, a student’s response to the other student’s question in pairs was direct answers, whereas the TA did not answer their questions directly. The TA was able to provide hints to involve learners in complex thinking. While most students responded with a direct answer to other’s question when they know the correct answer, the TA provided hints, not direct answers. This topic will be fully discussed with examples in the following section as it relates with Vygotsky’s concept of the ZPD.
Summary

When the transcriptions were analyzed, Asian learners accomplished collaborative tasks in a different manner than expected. First, only half the number of LREs in Kowal and Swain's (1994) study were found in this study. Participants in this study practised the TL and noticed problems; however, one third of them did not receive correct feedback from their partner, or they just ignored it. They did not have the opportunity to engage in hypothesis-testing or problem solving. The rest of the learners succeeded with analyses with appropriate feedback, although two thirds (98 out of 149) of the LREs were not solved correctly by learners' discussion at this stage. The learners who did not reach their own solution were able to solve problems with the TA's assistance when they asked; however, most learners seemed to hesitate to ask questions to the TA. Learners appeared to be engaged in problem-solving skills (e.g., decision-making, reasoning, linking ideas, analyzing, synthesizing, organizing, or justifying conclusions) by the TA's help. It is because, in most cases, a student's response to the other student's question in pairs was a direct answer, whereas the TA was able to solicit correct answers from learners by asking appropriate questions.

Engaging in complex thinking also occurred between learners. In the following section, this study will attempt to determine under what circumstances learners develop higher thinking skills.
Vygotskian Perspective for Asian Learners

b. To what extent do Asian learners develop a higher order thinking (e.g., a problem-solving skill) during collaborative learning? What are the possible factors that might influence it?

In order to describe the extent to which Asian learners engaged in higher order thinking, transcriptions of the pairs’ dialogue were analyzed, based on the number of problems solved by both learners. As described in the Methodology, their dialogues were classified into two types: “knowledge transmission” and “learning from each other.” In dialogues characterized as “knowledge transmission,” problems were solved by one person who did most of the work without much discussion or collaboration. As a result, both learners showed little sign of higher order thinking. On the other hand, in dialogues characterized as “learning from each other,” both persons collaborated throughout the process of passage reconstruction, and displayed equal contribution to the task completion by each learner correctly solving at least one problem through discussion without the TA’s help. Learners engaged in this type of dialogue showed signs of higher order thinking. The data were explored with five factors (i.e., learners’ L1, Japanese language proficiency, group work familiarity, and the number of solved problems (SP) and verbalized CD by each learner) in order to examine the possible factors that might lead learners to engage with a higher order thinking.

**Higher order thinking development**

1. “Knowledge Transmission” Type

Seven pairs (i.e., 1, 2, 4, 5, 9, 10, and 11) out of 12 were engaged in the “knowledge transmission” type, in which one person did most of the work and solved most of the problems with little discussion or collaboration.
Among the seven groups, Pair 10 showed very strong “Knowledge Transmission” characteristics. Although they were supposed to work together and each student had an assigned part to do, Student S did both parts. While student S was writing most of the work without verbalizing, T was just watching and sometimes reading it. Not much discussion or collaboration was taking place between them, as the following example shows.

Example 13 (Pair 10: S & T)

002 T: What should we do?
003 S: Don’t care about that. Do you know how to write “tanjoubi”?
004 T: I don’t know.
005 S: Oh, I see… it’s written like this. (S proceeded to complete draft by himself.)

The dialogue above is one of a few examples of their discussion. Most of the time, silence was maintained between them. According to the learners’ information, T had formal Japanese instructions, as well as the experience of visiting Japan, while T had no such experience. In addition, English proficiency for S was better than T, as S went to a Canadian high school. S’s and T’s Japanese proficiency levels were A+ and C- respectively. S did not attempt to explain to T what they should do at the beginning in order to complete the task quickly, and T did not try to ask the instructor or other classmates about it. Even though T had knowledge, T did not try to transmit it to S. As a result, S did not seem to learn much from this session.

Another type of dialogue was identified in the “knowledge transmission” group, but at least one of the students seemed to learn from the other. Example 14 shows how a
higher proficiency learner used her knowledge to elicit an appropriate response from a lower proficiency partner by providing explicit feedback.

Example 14 (Pair 11: U & V)

018 V: Sumimasen. Ashita wa tesuto ga arimasukara.

019 U: (after waiting a few second) Oh, you did not finish.

020 V: Let me see.

021 U: You say, “sore wa chotto....”

022 V: Sore wa chotto? (Looking at his draft and reading) Sumimasen, ashita wa tesuto arimasukara, tesuto arimasukara...sumimasen, ashita wa tesuto ga arimasukara. That’s it!

023 U: No, afterwards you say, “sore wa chotto....”

024 V: Sore wa chotto? Really?

025 U: Uhuh. I swear on my life.

026 V: Let me make up something there. O.K. *Sosososososore wa chotto...(writing the phrase on the draft).

027 U: (Looking at the draft.) No, the other one. That is a little bit.

028 V: Sore wa chotto desu.

029 U: No, just “chotto”.

Since U had confidence in her Japanese proficiency, she took a very strong attitude towards V, who had little confidence compared to U. The whole episode was about the Japanese expression, “sore wa chotto [literary meaning that is a little bit]” which is equivalent to “excuse me” in English. At turn 19, U explicitly commented that V had not finished his sentence. Her comment worked to facilitate the flow of conversation; however, while V was checking his notebook, U provided a correct answer without
waiting for V's response in turn 21. When V did not understand the phrase, U provided the meaning at turn 27. In turn 28, V suggested a possibility. U reformulated V's utterance at turn 29. Overall, U successfully elicited a correct response from V. Both learners did not seem to learn equally with interaction, but at least one learner seemed to learn from the partner.

Students A and B's dialogue had also strong "knowledge transmission" characteristics, and the higher proficiency learner A directly pointed out the error made by the lower level learner B. Example 15 shows how student A provided her feedback to B. A did not clearly state that B's utterance was incorrect, and did not try to elicit a correct response like U did in example 14, but provided correct answers implicitly.

Example 15 (Pair 1: A & B)

08  B:  Kyoo wa tenki desu ne [Today is weather, isn't it?].
09  A:  Ii [good]...and past (implicit correction).
10  B:  Kyoo wa ii tenki deshita ne [Today was good weather, wasn't it?).

At turn 9, student A implicitly indicated that "ii" should be added before weather, and it should be the past tense. This sort of implicit feedback was frequently found among Asian students. Unlike U, who clearly rejected V's utterances in Example 12, student A did not explicitly reject B's utterances. Pointing out the error does not mean a "lack of respect" in Western culture; however, no matter how politely it is done, it may cause a loss of face in Asian culture if the error is pointed out by someone who has the same or lower status and is not well known. Student A seemed to show respect for B by not directly indicating his error, to avoid an unnecessary conflict with him. This attitude was found in many Asian learners. Students A and B spoke different L1 and they used English as a medium for their interaction, but they appeared to have difficulty
communicating in English. In A and B’s dialogue, they took turns reading their assigned parts throughout the reconstruction stage; however, the pair did not show genuine interaction with each other. In other words, they just delivered their own independent or unrelated short speeches and did not use many collaborative strategies (i.e., CD) which were necessary for maintaining the flow of a cohesive and coherent group discussion. As can be seen in the pair’s interaction with the TA in Example 11, Student A mainly interacted with the TA. B was just listening to their conversation, nodding, but without posing a single question.

2. “Learning from Each Other” Type

Five pairs (i.e., 3, 6, 7, 8, and 12) were characterized as a “learning from each other” type, in which both persons collaborated throughout the process of passage reconstruction and displayed their equal contribution to problems and the task’s completion.

Interestingly, this type of interaction was mostly observed in pairs in which both learners shared the same L1, both were familiar with group work (except for Pair 12), and either of the two had achieved a high proficiency (i.e., Grade A) in the TL. Example 16 illustrates an exchange by K and L, who shared the same L1 (i.e., English) and good group work familiarity from their previous educational experiences. Both students received an A+ in the first term. K and L were the pair, which displayed “metatalk” (i.e., discussion which reflects on language use) the most frequently among all pairs.

Example 16 (Pair 6: K & L)

18 K: Ittemo, ittemo... is that asking something?

19 L: That’s right. If we need to ask permission, we use the te-form of the verb plus mo ii desu ka. For example, hon o aketemo iidesu ka
(may I open the book)?

20 K: *Miri, miri (incorrect form of the te-form of the verb “to see”) mo ii desu ka.

21 L: No, miru is the plain form. The te-form of the verb “miru” is mite, so mite mo ii desu ka (May I see?) Tabete mo ii desu ka (May I eat?). Kaite mo ii desu ka (May I write?).

22 K: Oh, O.K. That makes sense. Tabete mo, kaite mo, yonde mo ii desu ka (May I eat, write, and read?).

23 L: Perfect! Do you know what “atama (a head)” is?

24 K: Atama? Atama...it means a head.

Asking permission was one of the new grammatical points in the postdictogloss.

When K encountered a comprehension problem in turn 18, L explained the meaning and grammatical feature with an example. Then, K analyzed the form and tested it out, but it was not correct. L gave explicit negative feedback and provided more examples in turn 21. K repeated after that, and finally came up with the correct use of the form, “yonde mo ii desu ka” in turn 22.

Student K and L’s interaction is in sharp contrast to the interactive pattern of the pairs in the “knowledge transmission” group. K and L collaborated amicably throughout the reconstruction stage, by frequently using CD such as elaborating, and facilitating the flow of conversation. They asked questions and provided answers to each other, discussed solutions together, and learned with and from each other. They were not only contributing equally to complete the task, but also extended their language learning beyond the task.
Possible factors that influenced learners’ higher order thinking in CL

In order to examine Asian learners’ higher order thinking in CL, this study explored factors that might have affected students’ interactions and attitude when engaging in collaborative tasks by analyzing their dialogues. As discussed above, engaging both learners in pair with complex thinking was found more frequently in “Learning from Each Other” groups than “Knowledge Transmission” groups. Factors explored in this study include linguistic factors (e.g., sharing the same L1 with a partner, TL proficiency) and social factors (e.g., group work familiarity which is influenced by previous educational and cultural experiences).

Table 4 presents learners’ L1, TL proficiency, and group work familiarity according to two groups: the “Knowledge Transmission” group and the “Learning from Each Other” group. When comparing the two groups, the most salient difference is the TL proficiency. While the “Knowledge Transmission” group consisted of heterogeneous pairs (i.e., pairs who do not share the same TL proficiency), the “Learning from Each Other” group consisted of homogeneous pairs (i.e., pairs who share the same TL proficiency). As for L1, some pairs in the “Knowledge Transmission” group did not share the same L1, while all pairs in “Learning from Each Other” shared the same L1. In addition, their group work familiarity was relatively low in the “Knowledge Transmission”, compared to the “learning from each other” group, except Pair 12.

However, four native speakers of English, who should be familiar with pair work, were found in the “Knowledge Transmission” group, and only one native speaker of English was found in the “Learning from Each Other” group. The number of CD produced during the reconstruction stage was significantly lower in the “knowledge transmission”
Table 4

"Knowledge Transmission" Group and "Learning from Each Other" Group

**"Knowledge Transmission" Group**

<table>
<thead>
<tr>
<th>Pair No.</th>
<th>Student</th>
<th>L1</th>
<th>Japanese proficiency</th>
<th>Group work familiarity</th>
<th>No. of SP Pre</th>
<th>No. of SP Post</th>
<th>No. of CD Pre</th>
<th>No. of CD Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>Mandarin</td>
<td>A+</td>
<td>2 (Malaysia)</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>Cantonese</td>
<td>B+</td>
<td>3 (Hong Kong)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>Cantonese</td>
<td>B-</td>
<td>2 (Hong Kong)</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>Cantonese</td>
<td>C</td>
<td>2 (Hong Kong)</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>English</td>
<td>D-</td>
<td>3 (Canada)</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>Mandarin</td>
<td>A</td>
<td>2 (Taiwan)</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>English</td>
<td>A-</td>
<td>3 (Canada)</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>English</td>
<td>C</td>
<td>3 (Canada)</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>Q</td>
<td>Cantonese</td>
<td>B</td>
<td>3 (Canada)</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>9</td>
<td>R</td>
<td>Cantonese</td>
<td>A+</td>
<td>4 (Canada)</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>10</td>
<td>S</td>
<td>Cantonese</td>
<td>A+</td>
<td>4 (Canada)</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>T</td>
<td>Cantonese</td>
<td>C-</td>
<td>4 (Hong Kong)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>U</td>
<td>English</td>
<td>A+</td>
<td>4 (Canada)</td>
<td>2</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>11</td>
<td>V</td>
<td>Cantonese</td>
<td>B</td>
<td>2 (Hong Kong)</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total: 7</td>
<td>10</td>
<td>64</td>
<td>98</td>
<td></td>
</tr>
</tbody>
</table>

**"Learning from Each Other" Group**

<table>
<thead>
<tr>
<th>Pair No.</th>
<th>Student</th>
<th>L1</th>
<th>Japanese proficiency</th>
<th>Group work familiarity</th>
<th>No. of PS Pre</th>
<th>No. of PS Post</th>
<th>No. of CD Pre</th>
<th>No. of CD Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>E</td>
<td>English/Korean</td>
<td>A+</td>
<td>3 (Canada)</td>
<td>1</td>
<td>2</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>Korean</td>
<td>A+</td>
<td>3 (Korea)</td>
<td>1</td>
<td>1</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>Cantonese</td>
<td>A+</td>
<td>3 (Hong Kong)</td>
<td>3</td>
<td>4</td>
<td>14</td>
<td>27</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>Cantonese</td>
<td>A+</td>
<td>3 (Hong Kong)</td>
<td>3</td>
<td>3</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>Mandarin</td>
<td>A+</td>
<td>3 (Canada)</td>
<td>1</td>
<td>1</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>Mandarin</td>
<td>B</td>
<td>3 (Canada)</td>
<td>1</td>
<td>1</td>
<td>16</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>Mandarin</td>
<td>B+</td>
<td>4 (Canada)</td>
<td>1</td>
<td>2</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>8</td>
<td>P</td>
<td>Mandarin</td>
<td>B</td>
<td>3 (Taiwan)</td>
<td>2</td>
<td>2</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>12</td>
<td>W</td>
<td>Cantonese</td>
<td>A-</td>
<td>1 (Hong Kong)</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>12</td>
<td>X</td>
<td>Cantonese</td>
<td>A-</td>
<td>2 (Hong Kong)</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total: 15</td>
<td>19</td>
<td>113</td>
<td>145</td>
<td></td>
</tr>
</tbody>
</table>

*Proficiency Criteria (based on the grade in the first-term): A (80-100); B (70-79); C (60-69); D (below 59). Group work familiarity is a self-report measure on the preintervention questionnaire: 4 - Very familiar; 3 - Familiar; 2 - Not very familiar; 1 - Not familiar at all. No. of SP (solved problems) refers to the number of problems which were solved in pairs through discussion without TA's help during re-construction stage.
group than the “learning from each other” group. Also, the number of CD for pre- and posttest between individuals in pairs was more balanced in “Learning from Each Other” than “Knowledge Transmission” groups.

**Asian Learners’ Comments on Pair Work**

c. How do they perceive pair work?

The comments on pair work from the 24 learners who participated in both the pre- and posttests were analyzed according to the functions of output (i.e., practice, notice by feedback, and analysis), higher order thinking (i.e., problem solving), and groupings. Learners expressed both positive and negative comments on pair work, but they have more positive thoughts on the output functions than problem solving and groupings. First, positive comments will be presented, then negative comments, and finally differences between pre- and postintervention questionnaires between the treatment and comparison groups will be discussed. Students’ comments were reported verbatim.

Table 20 in Appendix K organizes participants’ positive and negative comments by the topic of practice, notice, analysis, problem solving, and groupings. The highest number of positive comments concentrated on “practice.” As analysis of dialogue transcriptions denoted 12 learners (B, C, F, I, J, K, L, M, N, P, R, X) stressed that they actually had fun with practising the TL. Three learners (E, H, Q) indicated the positive relationship between pair work and practice. Student H felt that “you have to speak a language to learn it, so it helps to speak with a partner.” Student Q commented that “language learning needs [sic] us to practice; therefore, pair work is very important.” Two students (R, T) expressed the view that they feel more comfortable with their peers when practising language than with the instructor.
The second highest number of positive comments went to “notice (by feedback).” Nine learners (A, E, F, G, J, L, O, W, X) felt that they can learn by pointing out each other’s mistakes. Student E stated that “[Pair work] allows [us to exchange] constructive feedback, and helps improve confidence in speaking Japanese.” Five learners (B, D, P, Q, T) also believed that they feel more comfortable having their peers refer to their mistakes rather than the instructor.

Many learners also had positive comments on “analysis.” Seven learners (G, K, O, S, U, W, X) expressed that they can share more information with a partner than alone. G, K, and O also stated that they can finish tasks faster in pairs than working alone. Student I mentioned that she was able to deepen her understanding of the topic through discussion.

As for solving problems, their comments varied. Four learners (A, E, F, J) expressed positive comments. F said that “your partner can push you to work also can [sic] solve problems together.” Student J believed that “whenever having problems in [sic] learning, we can solve them quicker than alone.” Student A stated that “you can discuss and solve problems without having a teacher or TA available.”

Negative comments on pair work were concentrated on groupings. 10 students (A, C, G, I, M, R, U, V, W, X) expressed negative comments on pair work in terms of groupings. Most of them believed that the success of pair work was dependent on who the partner was, and sharing the same quantity and quality of work was difficult. Student U in the comparison group stated that “quite often, partners are very unevenly matched, and one can bring the other down. One partner can frequently end up doing almost all of the work while the other still gets full credit for it.” Student A expressed that “if your partner is lazy or have a bad attitude, it is very hardly work together,” and “it’s hard to find a partner of the same level.” Student I commented that “when the previous
knowledge is not at the same level (can be different knowledge, but not good when one person ends up always teaching the other) ...[it] becomes a 'tutoring session' rather than pair work." Student V wrote that "it's hard to learn Japanese if the partner is not the same culture background as mine." Regarding a choice of a partner, Student N believed that "if the partner is chosen by teacher, we may not work well together." Student W expressed that "when a partner is assigned, sometimes the division of work is unequal. When you choose your own partner, you are able to pick someone that will work with you well." The way they choose their partner appeared to be important for them to accomplish their tasks efficiently in pairs. Three learners (H, I, O) claimed that it was difficult to adjust their schedule to work together outside of class.

Six students (C, D, G, O, P, U) verbalized negative ideas on solving problems with peers. Their comments were centred on the conflict of different ideas from both learners causing unresolved, time-consuming discussions. Student C stated that "may be we have some arguments according to different ideas, and then it delays and being [sic] bad effect on our works."

Only a few learners wrote negative comments on the output functions. Two learners (B, N) felt that difficulties related to practice were, "make it carry away [sic] off topic," and "when practicing, pick up bad accent and pronunciation." One student (A) was concerned with receiving a wrong answer when practising the TL with a partner. Four students (I, R, S) were afraid that a discussion with a partner to search for an answer was time consuming. Student S claimed that he hated to have arguments with a partner.

Overall, most Asian learners appeared to enjoy practicing the TL with a peer in spite of the reluctant performance they demonstrated, on the whole, during their pair work as mentioned earlier. Their positive comments concentrated on practice, notice, and
analysis, but more negative comments than positive comments were found on problem solving and groupings.

Chapter Summary

Data were collected from 45 McMaster University students through pre- and posttests, questionnaires, and informal observation. Among 45 participants, only 12 pairs consisting of 24 students attended both the pre- and posttests. Table 5 summarizes findings from this study. The next chapter presents a summary of the study, a discussion of the main findings, a discussion of the implications for theory, practice, and further research based on these findings.
<table>
<thead>
<tr>
<th>Research questions</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To what extent does training with practice affect Asian learners’ attitudes towards and interaction during CL?</td>
<td>a. Frequency of c-units</td>
</tr>
<tr>
<td></td>
<td>• More significant mean differences in the number of c-units between pre- and posttests in the TG than in the CG were found (Table 7 in Appendix K).</td>
</tr>
<tr>
<td></td>
<td>• No significant mean differences in the changes of the number of c-units between the TG and the CG were found (Table 8 in Appendix K).</td>
</tr>
<tr>
<td></td>
<td>b. Frequency of LREs</td>
</tr>
<tr>
<td></td>
<td>• No significant mean differences in the frequency of LREs between pre- and posttests in both groups were found (Table 9 in Appendix K).</td>
</tr>
<tr>
<td></td>
<td>• No significant mean differences in changes of the frequency of LREs between the TG and the CG (Table 10 in Appendix K).</td>
</tr>
<tr>
<td></td>
<td>c. Frequency of CD</td>
</tr>
<tr>
<td></td>
<td>• Significant mean differences in the frequency of CD between the pre- and posttests in the TG (Table 11 in Appendix K).</td>
</tr>
<tr>
<td></td>
<td>• No significant mean differences in changes of the frequency of CD between the TG and the CG (Table 12 in Appendix K).</td>
</tr>
</tbody>
</table>

(table continues)
<table>
<thead>
<tr>
<th>Research questions</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To what extent does training with practice affect Asian learners’ attitudes towards and interaction during CL?</td>
<td><strong>d. Final draft scores</strong></td>
</tr>
<tr>
<td></td>
<td>• More significant raw data differences in the final draft score and the number of c-units between pre- and posttests were found in the TG than the CG (Table 14 in Appendix K).</td>
</tr>
<tr>
<td></td>
<td>• No significant mean differences between pre- and posttests in both groups in t tests (Table 15 in Appendix K).</td>
</tr>
<tr>
<td></td>
<td>• No significant statistical changes of the final draft scores between the TG and the CG (Table 16 in Appendix K).</td>
</tr>
<tr>
<td></td>
<td><strong>e. Learners’ beliefs (from the numerical questions)</strong></td>
</tr>
<tr>
<td></td>
<td>• More positive responses on perception of pair work were found in the TG in the postintervention questionnaires.</td>
</tr>
<tr>
<td></td>
<td>• More students in TG became aware of the value of peer feedback after training, but their responses indicated a greater tendency to favour teacher’s feedback compared to the CG.</td>
</tr>
<tr>
<td></td>
<td>• No significant differences in the rankings by TG learners on preferences in partners, difficulty of pair work, and preferences in grouping formations for classroom activities between the pre- and postintervention questionnaires were found.</td>
</tr>
</tbody>
</table>

(table continues)
null
<table>
<thead>
<tr>
<th>Research questions</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To what extent does training with practice affect Asian learners’ attitudes towards and interaction during CL?</td>
<td>• No significant differences in the TG learners’ responses to the questions in Part II between the pre- and postintervention questionnaires were found.</td>
</tr>
<tr>
<td></td>
<td>• The expected benefits of the Output Hypothesis were not fully realized by Asian learners.</td>
</tr>
<tr>
<td></td>
<td>• When collaborative tasks were provided for Asian learners, most of them seemed to enjoy practising the TL with a partner.</td>
</tr>
<tr>
<td></td>
<td>• 149 problems were noticed; however, one third of the problems (48 out of 149) were not discussed with appropriate feedback, or were just ignored.</td>
</tr>
<tr>
<td></td>
<td>• Two third of the problems (101 out of 149) were discussed and analyzed, but only 50% of the problems (51) were correctly solved in pairs. The rest of the unresolved problems (50), as well as problems that were not analyzed when the peer noticed the problems (48), were solved with the TA’s assistance or proficient learners in other groups when learners asked for help.</td>
</tr>
</tbody>
</table>

*(table continues)*
<table>
<thead>
<tr>
<th>Research questions</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Vygotsky’s concept of the ZPD largely depended upon groupings.</td>
</tr>
<tr>
<td></td>
<td>• When learners in the same group shared the same L1, a similarly higher proficiency of the TL, and familiarity for group work, they produced a more balanced, higher frequency of CD. As a result, they solved more problems through discussion and argument, as well as encouraging each other. These factors appeared to contribute to learners’ complex thinking development in this study.</td>
</tr>
<tr>
<td></td>
<td>• When comparing the number of solved problems between the TG and the CG, the number for the TG was higher (29) than the CG (22), as well as the number of CD and the final draft scores.</td>
</tr>
<tr>
<td></td>
<td><strong>c. Learners’ comments on pair work</strong></td>
</tr>
<tr>
<td></td>
<td>• Most of the learners had positive perceptions towards pair work in spite of the reluctant performance they demonstrated, on the whole, during their pair work.</td>
</tr>
<tr>
<td></td>
<td>• While their positive comments concentrated on practice, noticing, and analysis, their negative comments were found on problem solving and groupings.</td>
</tr>
</tbody>
</table>

*(table continues)*
<table>
<thead>
<tr>
<th>Research questions</th>
<th>Additional findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td><strong>Problem solving</strong></td>
</tr>
<tr>
<td></td>
<td>• The “Learning from Each Other” group solved more problems (34) than the “Knowledge Transmission” group (17; see Table 4) as the “Learning from Each Other” group produced more CD (258) than the “Learning from Each Other” group (162) in total for both tests (See Table 4).</td>
</tr>
<tr>
<td></td>
<td><strong>L1 use</strong></td>
</tr>
<tr>
<td></td>
<td>• When learners used more L1, they produced more CD.</td>
</tr>
<tr>
<td></td>
<td><strong>LREs</strong></td>
</tr>
<tr>
<td></td>
<td>• Learners in both groups discussed more grammatical episodes than meaning-based episodes.</td>
</tr>
<tr>
<td></td>
<td><strong>Balance of output</strong></td>
</tr>
<tr>
<td></td>
<td>• When comparing the number of c-units and CD between the treatment and comparison groups (See Table 6 in Appendix K), it is quite obvious that the treatment group had more balanced output than the comparison group.</td>
</tr>
</tbody>
</table>
CHAPTER FIVE: SUMMARY, DISCUSSION AND IMPLICATIONS

Introduction

This research study examined the influence of training for Asian students on their attitudes and interactions during collaborative learning and explored the process of their Collaborative Learning (CL) in pairs. In this chapter, findings are discussed with respect to the background literature. It begins with a summary of the current study, which is outlined in the order of the research questions. The research questions designed to accomplish the purpose of this investigation include:

1. To what extent does training with practice affect Asian learners’ attitudes towards and interaction during CL?
   (a) To what extent does training influence the quantity of language production?
   (b) To what extent does training influence the frequency of Language Related Episodes (LREs) in pairs?
   (c) To what extent does training influence the frequency of Collaborative Dialogue (CD)?
   (d) How does training affect the quality of the final drafts?
   (e) Does training affect learners’ attitudes, beliefs, or preferences on pair work?

2. How do Asian learners accomplish collaborative tasks in pairs?
   (a) To what extent are the claimed benefits of the Output Hypothesis valid for Asian learners? More precisely, to what extent do they practise the TL, notice a gap, and test hypotheses while engaging in form-focused tasks in pairs?
   (b) To what extent do Asian learners develop higher cognitive functions during CL?

What are the possible factors that might influence it?
(c) How do they perceive pair work?

This is followed by a discussion to examine how these findings correlated to those found in previous research in related literature. Finally, it is concluded with implications for theory, practice, and further research.

**Summary**

Data were collected from 45 McMaster University students through pre- and posttests, questionnaires, and informal observation. Among 45 participants, only 12 pairs (24 students) attended both the pre- and posttests. Frequency of c-units, LREs, and CD were statistically analyzed based on audio-taped data from 24 students to answer the first research question. The final drafts for both the pre- and posttests obtained from the same 24 students were scored according to a rating scale for an analysis. Numerical responses to pre- and postintervention questionnaires collected from 45 students were compared in figures. In order to answer the second question, audio-taped data from 24 students were analyzed based on processes of output and higher order thinking, more specifically, problem solving skills. The 24 students' information and their responses to the open-ended questions for pre- and postintervention questionnaires were used to examine the possible factors that influence problem solving skills and their perception for pair work.

Various results were found for training. The results from the pre- and posttests for the influence of training indicated that there was significant improvement in the frequency of c-units and CD and considerably impact on draft scores within the treatment group in the posttest, although little influence of training could be shown on the number of LREs. Meanwhile, results from questionnaires showed changes in the learners'
perception of pair work in the postquestionnaire; however, few changes were found in their beliefs on teacher feedback and preference in partners.

The expected benefits of the Output Hypothesis were not fully realized for Asian learners. When pair work was provided for Asian learners, they practised the TL and noticed problems (149); however, one third of the problems (48) were not discussed with appropriate feedback or were simply ignored. As a result, the pairs did not have opportunity to engage in hypothesis-testing. On the other hand, two thirds of the problems (101) were discussed with appropriate feedback, and the learners engaged in analysis. At the analysis stage, however, only 50% of the problems (51) were correctly solved with a partner. The rest of the unresolved problems with no solution (50), as well as problems that were not analyzed even though the learner noticed the problems (48), were solved with the TA’s assistance when learners asked for help. Only 25% of unresolved problems (23) were analyzed and solved with the TA’s feedback in this study, as in most cases learners did not ask for the TA’s help. Also, only one TA in a class was not sufficient to answer all the questions the learners had.

Vygotsky’s concept of the ZPD largely depended upon groupings in this study. The anticipated higher order thinking within the ZPD did not occur with all pairs. While some pairs (e.g., “Learning from Each Other” groups) actively engaged in tasks and resolved problem, others (e.g., “Knowledge Transmission” groups) did not show effective interaction with each other. When learners shared the same L1, a similarly higher proficiency of the TL, and familiarity for group work, they produced a more balanced, higher frequency of CD. As a result, they solved problems through discussion, argument, as well as through encouragement. The pairs who shared these factors appeared to share the same degree of higher motivation, unlike the pairs who did not share these factors in
this study. When comparing the two groups, the “Learning from Each Other” group (n = 10) achieved higher frequency of solved problems (34) and CD (258) than the “Knowledge Transmission” group (n = 14) in both pre- and posttests. The “Knowledge Transmission” group solved only 17 problems and achieved 162 CD.

Results from the learners’ comments on pair work revealed that most of them had positive perceptions towards pair work, in spite of their reluctant performance. They expressed more positive comments on the first part of learning processes (i.e., practising, noticing with feedback, and analyzing), but articulated more negative comments on the latter learning process (problem solving). They also claimed difficulties with finding a good partner when forming a group.

Discussion

The following is a discussion of the findings of this study. Information from the review of the literature will be used to support the conclusions of this study and demonstrate a departure from or extension of theoretical understandings.

Effects of Training

In contrast to results from Bejarano et al.’s (1997) study, there were no significant mean differences in the frequency of c-units, LREs, CD, and the final draft scores between the treatment and comparison groups; however, it may be premature to conclude that there was no influence of training. Foster (1998) suggested that statistical computations obscure what is happening at an individual level. Raw data in Table 6 (Appendix K) indicated that there were more improvements on the frequency of CD and the draft scores in the treatment group than the comparison group. In addition, when
comparing the balance of c-units and CD in pairs between the treatment and comparison groups, it is obvious that the pairs in the treatment group had a more balanced output than the comparison group pairs. Table 21 in Appendix K shows balance of the number of c-units and CD in pairs. Differences of the number of c-units and CD produced by each member in each pair in the treatment group were smaller (c-units: 30; CD: 8) than in the comparison group (c-units: 42; CD: 13). Moreover, while the difference of c-units between each member in the treatment group decreased in the posttest, the difference increased in the comparison group in posttest. Bejarano et al. (1997) suggested that taking turns equally in pair is important to carry out meaningful communication during the conversation. However, this study found that the number of turns does not precisely reflect the proportion of interaction in pairs (see Appendix B for a detailed description), because the length of each turn may vary. Therefore, this study counted the number of c-units rather than the number of turns to identify a balanced output. Such a balanced output leads learners towards collaboration in which they could contribute to their use of various social strategies in their new language. Examples of social strategies include knowing how to interrupt politely and effectively, how to succeed in negotiating meaning, how to disagree tactfully, and how to come to a compromise, in addition to critical thinking and problem solving. CD was considered as a critical element of social strategies in this study.

It is possible to speculate that training might have increased the quality of interaction strategy use such as CD. The fact that the treatment group gained a more balanced number of c-units and CD than the comparison group in the posttest might have resulted in higher draft scores. From this result, it can be inferred that the quality of interaction strategy use may be more important than the frequency of interaction for the
FL learners. This finding is consistent with previous research. Bejarano et al. (1997) suggested that CD is necessary to maintain the flow of a cohesive and coherent group discussion. When students engaged in CD, they reacted to each other and related to what other members in the group said, rather than delivering their own independent or unrelated short speeches which resulted in non-interaction participation. Aston (1986) confirmed the importance of developing strategies for establishing and maintaining social collaboration. Fotos and Ellis (1991) as well as Lam and Wong (2000) suggested in their study that the quality of interaction is more important than the quantity of interaction.

Lam and Wong’s study results, however, are contrary to the current study results. They found that although training resulted in an increase in the quantity (frequency) of interaction strategy use, it did not improve the quality (effectiveness) of interaction strategy use. It is possible that, because participants in Lam and Wong’s study were not allowed to use their L1 along with their limited L2 linguistic resources, they were not able to effectively interact with each other. Moreover, the topic of their tasks in the posttraining discussion might have been difficult to handle for 17-year-old learners because the topics were inconsistent with their daily life. For the pretraining discussion, learners were asked to talk about the type of toy, which they think would sell best if they were a member of the design team of a toy manufacturer. This topic might have generated the learners’ discussion because they must have knowledge of toys from their experiences. For the posttraining discussion, learners were asked to talk about how to spend $100,000 to build or improve sports facilities at the school. Such questions require not only linguistic knowledge but also specific background of the topic knowledge. The learners would probably find it more difficult to be engaged in the posttraining discussion. This study suggests that tasks to evaluate learners’ interaction strategies should reflect
their daily life, as used in the pre- and posttests (i.e., dictogloss) in this study, so that every learner has an equal opportunity to discuss the topic.

To summarize, considering a significantly improved mean score of CD and the final draft score, the perception of pair work, as well as the number of solved problems in the treatment group, it is feasible to think that training positively affected Asian learners' attitudes towards and interaction during CL. Raw data indicated that there were improvements on the frequency of CD and the draft scores in the treatment group. In addition, when comparing the individual number of c-units and CD between the treatment and comparison groups, it is obvious that the pairs in the treatment group had a more balanced output than the comparison group pairs. Considering CD as a social strategy and the balance of c-units in pairs as a step towards meaningful communication, it is possible to think that there were positive influences of training.

Processes of Asian learners' CL

Benefits of the Output Hypothesis. Overall, this study found that Asian learners accomplished collaborative tasks in pairs in a different manner than what Swain and Lapkin (1995) proposed. Based on "Output and Second Language Learning" (See Figure 1 on page 17) proposed by Swain and Lapkin, Figure 2 illustrates Asian students' learning processes in light of peer and TA feedback. While Swain and Lapkin did not mention the intervention of external feedback during the analysis stage, this study found that the external feedback during this stage was critical in L2 learning.

When examining Asian learners' collaborative dialogue more closely, this study found an alternative learning process as illustrated in Figure 2. The process of learning
Task to promote learners' interaction

↓

Output

When learners ask for the TA's feedback

⇒ indicates appropriate internal and/or external feedback.

→ indicates inappropriate, refused, unrecognized or no feedback.

Arabic numerals in parentheses correspond to the number of each output in the same episode.

Figure 2. Asian learners' output and FL learning.
alone did not result in resolution of problems. Many problems were not solved. A large number of problems (48 out of 149) were simply neglected after noticing. Similarly, a large number of problems (50 out of 149) were not solved correctly after an analysis. As a result, only 30% of problems (51 out of 149) were correctly solved without the TA’s help, while 50% of problems (74 out of 149) were correctly solved with the TA’s help. These numbers are considerably lower than in Haneda’s (1996) study. She found that 75% of problems were resolved correctly. The learners’ different level of proficiency (i.e., Haneda’s participants were preintermediate level) as well as motivation (i.e., Heneda cautioned that her participants’ interactional data do not constitute representative samples of university JFL learners, since her participants were highly motivated learners), and the different time range for reconstruction stage (her participants were given 25 minutes while participants in this study were given 20 minutes) might have generated the difference.

While Swain (1998) suggested that, through hypothesis formulation and testing, producing language might serve the language learning process, transcription data in this study showed that the learners did not conduct enough discussion for searching for a resolution with peers when they were engaged in testing their hypotheses. In addition, external feedback (e.g., peer feedback) during the analysis stage stood out as a critical element to encourage learners to succeed in the language learning in this study. Furthermore, the presence of a number of unresolved problems, and their errors in the transcriptions as well as in the final draft indicate the need for the TA or teacher intervention. When learners did not find a solution or produced incorrect output, the TA’s feedback guided them towards a solution or correction during the learning processes.

The findings support the claim that perceptions of rules for talking, turn taking,
and behaviour differed considerably between cultural backgrounds (Carson & Nelson, 1996; Mangelsdorf, 1992; Sato, 1982; Tsui, 1996). However, while some participants in this study were actually reluctant to engage in active communication, many Asian learners were willing to participate in their speaking activities in class as Littlewood et al. (1996) reported. Also, the result of the increase in the number of c-units and CD for posttests, as well as their comments on pair work, suggest that cultural background may be less important than personality. These findings contradict many studies that support the view that a lack of familiarity in collaborative activity in their background education is believed to impact on their performance and attitude in classroom (Bassano and Christison, 1995; Bruffee, 1993; Littlewood et al., 1996; Roskams, 1999).

A number of research studies discussed how Asian students highly respected the role of the instructor (Ballard, 1996; Cortazzi & Jin, 1996; G. Ellis, 1996; Kramsch & Sullivan, 1996; C. Lee, 2000; Littlewood, et al., 1996; Shamim, 1996a, 1996b). From the learners’ responses to statement 10 in the questionnaires, this study found that they greatly respects teacher’s feedback; however, many learners agreed that they feel more comfortable to practice Japanese with a partner than with the teacher, as can be seen in Statement 2 in Figure 3 (Appendix K). This view was more salient in the comparison group than in the treatment group, possibly because they had a different instructor in both groups. The instructor in the comparison group held more authority on markings than the TA in the treatment group.

**Development of higher cognitive functions.** Vygotskian concepts, such as inter- and intrapsychological processes and the ZPD, have served as the theoretical foundation for much SLA research (e.g., Anton & DiCamilla, 1998; Donato, 1994; Kowal & Swain,
1994; Ohta, 1995; Swain & Lapkin, 1998). According to Vygotsky (1981), in the earliest stage of life the development of higher psychological functions appears on the social plane; that is, in collaboration with adult caregivers or other knowledgeable members of the child's culture. The transfer of functions from the social (or interpsychological) domain to the cognitive (or intrapsychological) plane occurs within the ZPD. His discussion of the ZPD suggests that an individual's cognitive system is a result of interaction in social groups and cannot be separated from social life. Consequently, an individual is able to achieve higher cognitive development with assistance than he or she can manage alone.

The findings of this study confirm Vygotskian theory; however, they suggest that the ZPD largely depends upon groupings. The anticipated higher order thinking through collaboration within the ZPD did not occur with all pairs. While some pairs actively exchanged their questions, answers, opinions, and/or suggestions to solve problems, other pairs did not interact with each other. This coincides with the learners' responses to the questionnaires. In their responses, many learners expressed that finding an appropriate partner is one of the most difficult aspects of pair work.

Analysis of transcription data support Vygotsky's notion that the transfer of functions from interpsychological to intrapsychological process occurs within the ZPD. Through dialogue construction tasks, each learner received feedback from a partner (i.e., the use of interpsychological plane) and repeated the word or phrase individually (i.e., the use of intrapsychological plane). In the analysis of learners' collaborative dialogue, by means of the L1 the learners scaffolded strongly and repeated the social and cognitive processes more frequently. They encouraged each other's interest in the task throughout its performance and discussed each other's partial solutions to solve problems throughout
the task. Thus, the results of this study support the claims made by Anton and DiCamilla (1998) for the important role that problem-solving dialogue in L1 can play in learning and L2, as L1 is deployed to provide scaffolded help in the ZPD.

Implications

As an interpretive case study, this investigation is intended to both describe Asian learners' collaborative learning in the JFL classroom and to interpret how results of this study can be used to enhance theory, practice, and future research. With the results of the study now thoroughly described, the focus of this chapter will be on providing interpretations of the results and highlighting areas of interest and contradiction as considered in the literature review of Chapter Two.

Implications for Theory

The results of this study confirm some of the relevant SLA theory and also extend existing theory by providing a more detailed understanding of Asian learners' interactions and attitudes during collaborative learning.

Swain's Output Hypothesis

The findings of this study enhance Swain's (1985) comprehensible output hypothesis by providing detailed processes of output and FL learning. Her theory needs to take into consideration broader social factors. The instructor and researcher should take precautions, as each learner's different perception for speaking activities arises from individual difference as well as cultural and previous educational experiences.
Swain's output hypothesis (1985) needs extending to take in learners' individual differences towards speaking activities. This study's results showed that CL activities which involve learners' speaking practice is useful to have the learners notice problems (Swain, 1985); however, when using CL activities which involve their higher thinking skills (e.g., problem solving), many Asian learners failed to solve problems in pairs. The instructor should prepare for beginner Asian learners by encouraging further involvement and self-management after failure, including: effort, strategy, and interest in the task, fostering good relationship with a partner, and so forth. It is a crucial role for the instructor to spend considerable time explaining that interaction between student and student as well as teacher and student facilitates learners to engage higher cognitive process. In order to prepare for Asian learners, this study suggests learner training. The training, which is designed to develop learners’ problem-solving skills might be a challenge for further research.

In addition, Asian learners' perception towards the instructor need to be considered. As transcription data indicated, when learners do not reach any solution for their problems and produce incorrect output, the TA's appropriate feedback generated their problem solving skills. In this study, only 23 out of 98 incorrect output were reanalyzed with the TA's assistance. Asian learners reluctance to interact with the TA could influence their FL learning. Their perception for the instructor should be changed from an authority to a facilitator by having many opportunities to discuss (e.g., not only lecture but ask and answer questions) with each learner in class to promote communication between the instructor and the students. Bringing several TAs in class would be another idea to encourage learners' further involvement. If there were more TAs to provide necessary assistance for these learners, more correct output could have
been expected. In order to achieve a higher frequency of problem solving opportunity, this study suggests the increase of opportunity to discuss with students, as well as the maintenance of several trained TAs for help.

Vygotsky's ZPD

This study found that appropriate groupings with the TA’s help are vital to develop learners’ high-level cognitive strategies (e.g., problem-solving skills) such as analyzing, elaborating, discussing, debating, and arguing. There is little discussion in the literature with regard to factors which impact high-level thinking. Although deriving from a small number of participants, this study attempted to examine relationship between these factors and problem-solving skills. From data analyses of transcriptions as well as students’ information, this study found that some factors seem to influence the learners’ problem-solving skills. When the learners shared the same linguistic proficiency, the same L1, group work familiarity, and the same degree of higher motivation to accomplish tasks, they tended to produce more CD and were more frequently engaging in problem solving. These possible factors may directly influence the quality of learners’ interaction, which was found to be the most vital element to learn a FL in this study. The results expand the notion that the more homogenous pairs (e.g., the same proficiency) worked better than heterogeneous pairs (e.g., Donato, 1994; Kowal & Swain, 1994). This study suggests that the homogenous pairs possibly shared characteristics led to greater willingness to try (i.e., motivation).

There is a discrepancy regarding the learners’ proficiency to develop cognitive function between this study results and literature. From aforementioned discussion, the learners in this study showed more collaboration when they shared the same level of higher proficiency, whereas some literature including Vygotsky (1981) and Wood et al.
(1976), indicated that scaffolding occurs mainly between novice (e.g., child) and expert (e.g., mother). On the other hand, from transcription data, this study also suggests that the range of ZPD can be expanded when the learners interact with the instructor or TA, who has broader knowledge of the TL than the learners. When the learners in a pair do not share any factors, or are from the low-low proficiency group, the instructor's intervention would be crucial.

Implications for Practice

Implications of the theory and findings generated by this study reveal a variety of potential implications for practice in a JFL and EFL/ESL classroom. This section will summarize these implications, and will provide some suggestions on how the theory and findings generated by this study might be used by the instructors to enhance FL/SL classes. This combination of resources may reinforce classroom management in making decisions about the implementation of CL through pair work, including a selection of tasks and groupings, learner training, and native language use.

Training

Training increased the number of CD, solved problems, the posttest scores, and learners' positive perceptions towards pair work; however, a few negative results of training were found from data. Some possibilities to improve training are listed in this section.

First of all, only a few useful Japanese expressions were identified in the transcriptions of the treatment group. Considering the fact that fewer numbers of c-units and the use of L1 were identified in the treatment group than in the comparison group,
the learners in the treatment group might have had impressions from training that they must use Japanese as much as possible when they interacted with peers. As a result, it might have prevented the treatment group learners from fully interacting with peers in their L1. Although the Japanese expressions taught in the training session had been introduced in the courseware during the first term, the learners did not seem to be aware of these expressions, due to a lack of practice. SLA research has reported that the frequency of practice directly affects the acquisition and usage of the TL (Crutcher, 1998; G. Ellis & Sinclair, 1989). If the useful Japanese phrases had been regularly reviewed and practised in the first term, the learners could have fully retained and fluently used them during the CL activities in the second term. Consequently, this result suggests that the training period was not long enough to internalize these expressions in the learners' linguistic resources. Collaborative training could be implicitly, not explicitly, incorporated into the formal instruction as a long-term strategy instruction. For instance, presentation materials for training for weeks 1 to 3 could be introduced during the first term repeatedly as necessary. The use of the essential Japanese phrases for promoting pair work could be reinforced until the learners fully retain the meaning and the usage. After the learners become aware of the importance of CL for their language acquisition, practice for weeks 1 to 5 with a larger variety of exercises could be implemented during the second term, with an appropriate evaluation of their performance with group work.

Another negative result of the effects of training was found from learners' responses to the questionnaires. The learners' responses to part II in the questionnaires indicated that there were great differences in the time spent with the partner outside of class between the treatment and comparison groups (see Table 18 & Figure 4 in Appendix K). The responses from the postintervention questionnaires indicated that 40%
more learners in the comparison group than the treatment group spent more than 1 hour outside of class with the partner. Why were such different attitudes observed? One could interpret it as the difference in their motivation. According to I. Lee (1998), a recent longitudinal study indicated that tertiary students in Hong Kong have little incentive to undertake learning outside their studies and tend to limit their work to what is taught in the course. However, highly motivated learners tend to spend much more time learning outside of the classroom (Biggs, 1996; Chamot, Barnhardt, El-Dinnary & Robbins, 1996) than less motivated learners. By spending time with the partner to accomplish tasks outside of class, the learners might have a chance to practise the TL more frequently. More time spent for practising the TL may promote the learners’ language proficiency. Moreover, spending time with the partner outside of class might have increased the opportunity to know each other as well as to contribute to a development of discussion skills. Although many researchers suggested that the learners’ collaborative social skill could be developed in the language classroom through a CL activity or training (e.g., Bassano & Christison, 1995), the study results suggest that it might be difficult to fill in the gap of the skill between the students who spent their time with their peers outside of class, and the students who did not spend time with peers outside of class, in a limited class hour. It is possible to speculate that the learners in this study might have had difficulty being motivated enough for using their interaction strategy skills both outside and inside of classroom, because the effectiveness of their interaction strategy skills was not expected and addressed in the evaluation used in the course. Developing a curriculum that implements an evaluation of learners’ strategy use should be necessary to promote learners’ motivation.
null
Learner Motivation

This study found that learner motivation performed a primary role for promoting learners’ interaction. From the learners’ responses to the ranking of difficulty of pair work, “sharing the same quality of work” was ranked as the most difficult aspect of pair work in both pre- and posttests (see Table 17 in Appendix K). Such a frustration could distract their motivation from CL learning. Their concerns on groupings include “difficult to find a partner to have a good relationship,” “hard to work together if the partner is lazy and have a bad attitude,” “unevenly matched partner causing to bring the other down,” and they were afraid that their idea could be copied by a partner. Mostly, these concerns seemed to arise from a partner’s passive performance. It is possible to think that such Asian learners’ passive attitudes reflect their tradition that signified individualistic orientation in education (C. Lee, 2000). The learners may not know how to interact with each other in the classroom (Richards, 1990). Also, they might not have perceived group work as a critical element of language learning.

As a solution for Asian learners’ reluctant attitudes toward interacting with peers or the instructor both inside/outside of the classroom, Iwata (2001) proposed an implementation of a weekly self-evaluation of the learners’ individual effort, interaction strategy skills, and problem-solving skills. In light of Asian learners’ high achievement motivation (Biggs, 1996; Cortazzi & Jin, 1996; Flowerdew, 1998), it may be necessary to link the self-evaluation to the course grade to motivate the learners’ interaction. The questions for self-evaluation proposed by Iwata include:

Outside of class, did you regularly:

1. review the previous lesson?

2. read the assigned pages for today’s lesson as listed in the schedule?
3. listen to the CD for the assigned pages?

4. practise spoken Japanese with your peers or native Japanese speakers?

In class or lab, did you:

5. listen carefully to the Japanese language spoken by the instructor, TAs, and classmates?

6. repeat Japanese after the instructor as accurately as possible?

7. actively participate in pair work (or group work)?

8. answer the questions by the instructor, TAs, or classmates?

9. ask questions in order to solve problems or to expand knowledge?

10. demonstrate your knowledge of Japanese in front of class (e.g., by role-playing or writing on the board)? (p. 1)

To actively engage in a group, each learner needs to maintain a good level of linguistic knowledge. Questions 1 to 3 involve learners’ consistent individual effort to maintain their linguistic knowledge. Also, the learners need to use interaction strategies both outside and inside of the class. Questions 4 to 7 involve the use of interaction strategies in both situations. Problem-solving skills need to be regularly demonstrated in class to engage learners in complex thinking. Questions 8 to 10 encourage learners to develop their problem-solving skills including decision-making, reasoning, recalling and relating past experiences, linking ideas, analyzing, synthesizing, organizing, and justifying conclusions.

**Dictogloss**

The purpose of the implementation of dictogloss was to investigate how learners practise the TL, provide feedback on each other, and resolve problems together. As many
SLA researchers (e.g., Kowal & Swain, 1994; Storch, 1998; Wajnryb, 1990) advocated, this study found that dictogloss is a powerful tool to actively engage learners in CL activities while improving grammatical accuracy. More precisely, as Kowal and Swain’s data illustrated, dictogloss successfully encouraged students to think about the form of the message they were constructing. The students willingly collaborated with one another to construct meaningful, grammatically correct messages, thereby consolidating and refining their knowledge of the Japanese grammatical system.

It was found that the participants in this study discussed meaning-based episodes in higher proportion than intermediate learners in Haneda’s (1996) study. With preintermediate JFL learners, the proportions of meaning-based, grammatical, and orthographic episodes were 22%, 59%, and 19% respectively. With beginner JFL learners, the proportions for both pre- and posttests were 38%, 49%, and 14%. The most frequent kind of interaction within the meaning-based episode type in this study was “checking the meaning of a word or phrase.” The second was “talking about lexical choice.” The least discussed episodes were “reconstructing the meaning.” It is possible to think that vocabulary and phrasal expressions play a critical role at the beginner level and learners did not have enough grammatical knowledge to reconstruct the meaning.

The results of Anton and DiCamilla’s (1998) study provided further evidence that dialogic exchanges in collaborative tasks are important as an activity favourable to SLA. Doughty and Pica (1986), Pica et al. (1993), and Walz (1996) found that an obligation for information exchange is crucial to the generation of learner interaction in the classroom. From informal observation and data analysis, the implementation of short dialogic format into dictogloss, which entails the construction of information gap activity, successfully provided learners at beginner level with opportunities to effectively engage in CL in this
study. This dialogic dictogloss was designed to engage both learners in CL activity by assigning a different role (i.e., part) for each student, and appeared to be feasible to complete tasks for the learners who did not have enough proficiency to listen to a long paragraph of sentences.

Groupings

The view of group formation is controversial in the literature. While some researchers and educators (e.g., Bruffee, 1993; Lewis & Hill, 1995) emphasized that a change in group formation helps students enlarge their acquaintance, solve problems in groups, and gain new interests and abilities by working with a variety of peers, others (e.g., Roskams, 1999) recommended that keeping students in the same small groups all term may be more efficient than mixing them up from class to class. The learners’ responses to statements 6 and 8 in Figure 3 (Appendix K) indicated that individual learners also tend to have different opinions on group formation. Effective group formation is one of the most critical aspects of conducting successful CL; however, it is very difficult to establish a protocol which is effective for every classroom, because the effectiveness of grouping changes depending on participants. Therefore, “teachers need to try different group formations to find out what works best with their class” (Consul & McGarrell, 2002). The learners’ preference could be examined through classroom observation, questionnaires, and/or interviews to keep each group productive, harmonious, and active throughout the term.

Multiple research studies attempted to determine which groupings (i.e., expert-novice or novice-novice) would be more effective for learning the TL. The current study supports Kowal and Swain’s (1994) finding that in the homogenous pairs, contributions
of members were more balanced when they solved problems. From transcription data, more frequent and balanced scaffolding help which contributed to solving problems was found in the homogenous pairs than heterogeneous pairs (see Table 4). The scaffolding help that the expert provided to the novice was often observed between the instructor and the learners.

In conclusion, this study suggests that careful consideration should be given to groupings. In order to keep each group productive, harmonious, and active throughout the term, different group formations should be employed. The ideal environment for collaborative learning may take place where the homogenous pair engaged in meaningful discussion with the TA as a minimally participating expert.

L1 use

Analysis results of audio-tape data for pre- and posttests indicated that the more L1 the learners used, the more CD they produced. As a result, more CD was identified from pairs which shared the same L1. Interestingly, all the pairs classified as “Learning from Each Other” shared the same L1, whereas half of the pairs in the “Knowledge Transmission” group did not share the same L1 (see Table 4). The pairs who shared the same L1 seemed to be engaged in more problem solving using their L1. These findings support sociocognitive functions of L1, which is shown not only to be an indispensable device for students in providing each other with scaffolded help (Wood et al., 1976), but also to create a social and cognitive space in which students are able to provide each other and themselves with help throughout the task (Anton and DiCamilla, 1998). As Anton and DiCamilla concluded, this study’s results do not support current tendencies to completely avoid L1 use in student interaction, because to prohibit the use of L1 in pair
work would cause a removal of two powerful tools for learning: L1 and effective collaboration. When providing CL tasks to the learners, the instructor should clearly verbalize that they can use the L1 to interact with each other.

**Learner Beliefs**

Many models of SLA attribute a central role to learner beliefs (Richards & Lockhart, 1993). The study’s findings support Richards and Lockhart’s claim that the learners’ beliefs are influenced by the social context of learning and can influence their attitude both toward the language itself as well as toward language learning in general. Learners’ belief systems cover a wide range of issues and can influence learners’ motivation to learn, their expectations about language learning, their perceptions about what is easy or difficult about a language, as well as the kind of learning strategies they favor (Richards & Lockhart). For instance, the questionnaire data from learners’ responses for Statement 10 exhibited Asian learners’ beliefs, which were deeply influenced by their “Confucian-heritage.” More than 90% of the learners’ responses in both groups in the postintervention questionnaire agreed to the statement, “The teacher can provide much more useful comments on my work than other students in my class.”

In a Western educational setting, if the instructor believes that the learners respect their peer feedback as well as the instructor’s feedback, it could cause distress for the learners who have different beliefs, as Ballard (1996) warned. Some of the literature (e.g., Bassano & Christison, 1995; Chaudron, 1988; Cortazzi & Jin, 1996; Cotterall, 1999; G. Ellis, 1996; Flowerdew, 1998) pointed out that if there is a discrepancy between what learners believe and the beliefs embedded in the instructional structure in which they are enrolled, there is bound to be some degree of friction or dysfunction.
Meanwhile, some questionnaire data showed significant differences in learners' beliefs by the group. For example, learners' responses to preferences on changing partner contradicted between the treatment and comparison groups as seen in Figure 3 (Appendix K), Statement 6 and Statement 8. While 100% of the students in the treatment group agreed to Statement 6, "I like the idea of working with the same partner for the whole term," only 50% of the students in the comparison group agreed for the preintervention questionnaire. As for responses to Statement 8, "I like to change partners every time I work in pairs," 85% of the students in the treatment group disagreed to the statement, whereas only 50% of the students in the comparison group disagreed for the postintervention questionnaires. One of the possible reasons for the different responses might result from different educational experience. Although the majority of the participants for this study shared Asian cultural background, different educational background was found from student information. Four students in the treatment group and 7 students in the comparison group experienced Canadian high school. It may be possible to think that students who were familiar with group work in the Canadian high school were more favour of changing a partner. Another reason for the difference may be individual difference. Horwitz (1999) suggested that understanding learner beliefs about language learning is essential to understand learner's anxiety, motivation and strategies about language learning and to make a plan of appropriate language instruction. She revealed that there has been no strong evidence about how these beliefs may differ across learner groups. Rather, her results from the BALLI (Beliefs about Language Learning Inventory) indicated the possibility that within-group differences, whether related to individual characteristics or differences in instructional practices, likely account for as much variation as the cultural differences. The different responses from the treatment
and comparison groups on learners' beliefs on changing partners in this study support Horwitz's (1999) view.

To summarize, the administration of questionnaires or interview on learner's anxiety, motivation, and strategies about language learning at the beginning, middle, and end of the course could be useful to conduct effective group work activities in the course curriculum as well as to understand the diverse population of learners' beliefs. Differences in the learning environment (e.g., teaching methodology) or individual characteristics may be more influential in determining learners' beliefs about CL than differences in culture.

Implications for Further Research

This study has various implications for further research. Japanese language education is far behind ESL/EFL in terms of the application of current Western theory in teaching methodology and practice. For example, most of the Japanese instructor training courses in Japan still introduce the grammar-translation method, the audiolingual method, and the direct method as commonly used methodologies. A considerable amount of future research which integrate recent Western methodologies into JFL methodologies are necessary to change this trend, and to conduct effective JFL instruction.

With analyses of a large range of data, this study confirms, extends, and questions previously existing major theories related to CL. Consequently, it has provided information which is the potential for future studies. With the foundation of this study, future studies should be able to develop more effective training as well as to improve assessment of language production, interaction, and collaboration. Also, future studies will be able to provide more in-depth information on classroom management such as
group formation and L1 use with a follow up interview. Some research questions for future study include:

1. How is CL training perceived by Asian learners, and how their interaction strategies change after longer period of training?

2. To what extent does training enable the development of learners’ problem-solving skills through group work?

3. How does the use of L1 facilitate learners’ completion of CL tasks as the processes of the L2 learning?

A number of specific suggestions for future research data collection also arise out of the study. One limitation of this study was that the population was not large enough to generalize results. To generalize results, future research could replicate this study with a larger sample size of at least 30 students in each group. If the researcher has control over the participants’ grade, it would be recommended that their score for the pre- and posttests should be counted as a part of their final grade in order to encourage a large number of students to participate in both tests.

Another suggestion is that the influence of training with participants should be investigated more longitudinally. As described in the section of training in the “Implications for Practice,” the study results revealed that considerable time is required to promote learners’ interaction, and the duration of training in one semester was not long enough. A longer training period (e.g., at least two semesters) as well as follow up interviews after training might be necessary to strengthen support for the impact of training.

Finally, this study suggests that researcher uses audio equipment in laboratory to record learners’ output. The background noise and the quality of recordings could
influences analysis of their output when their interactions were audio-taped with cassette decks in a classroom. Some learners stopped recording due to their shyness to be recorded their voice. It is important to walk around the classroom to make sure their conversation is recording. With using advanced computer software, which enables to transcribe learners' output through voice recorder, more precise and faster analysis of the learners' dialogue may be possible in future.

Chapter Summary

This chapter was a discussion of the research findings, followed by implications for theory, practice, and future research. Conclusions will now be reported by briefly summarizing the findings on the two prime research questions of this study. To answer the first question, data from this study found that training had significant influence on the frequency of CD and a considerable impact on the quality of draft scores in the treatment group, although little influence was observed on the frequency of c-units and LREs. Meanwhile, results from questionnaires showed positive changes in the learners' perception of pair work after training. Few changes were found in their beliefs on teacher feedback and preference in partners. To answer the second question, it was found that the learners did not conduct enough discussion for a resolution of problems with peers. While Swain (1998) suggested that through hypothesis formulation and testing, producing language might serve the language learning process, data from this study showed that the learners did not conduct enough discussion for a resolution of problems with peers. These results suggested the need for TA or teacher intervention in order to encourage the learners to succeed in their language learning. In addition, analysis of transcription data extended Vygotskian theory. The anticipated cognitive (i.e., higher order thinking)
development through collaboration within the ZPD did not occur with all pairs. This study found that when the learners in pair shared the same degree of linguistic proficiency, group work familiarity, and the same L1, they developed strong motivation to accomplish tasks.

**Final Thoughts**

Through this study, I have attempted to gain insight into how participants in this study feel about CL training and activities. Initially, not all the participants willingly interacted with their partner; however, students gradually changed to limited degree as they progressed through their course, and I felt their excitement and appreciation. In the process of exploring Asian learners’ CL, I have gained a greater appreciation of the value of Western teaching methodology. Certain elements to support a Western methodology are found in Confucian heritage as represented by the proverb, "if you give a man a fish you can feed him for one day, but if you teach him how to fish you can feed him for a lifetime;" however, in reality, an ideal Asian educational setting (e.g., teacher centred) is far from an ideal Western setting (e.g., student centred) as far as I was concerned from my experience and observation through this study. The learners’ language use through learner-learner collaboration in classroom should be more emphasized to provide them with lifelong learning, rather than just transmitting the knowledge and authority of the instructor to the students. Meanwhile, differences in the learning environment (e.g., teaching methodology) or individual characteristics may be more influential in determining learners’ attitudes towards and beliefs about CL than differences in culture. Actually, some very teacher-centred classrooms exist in the West, whereas recent FL education in Asia is changing by the influence of Western student-centred methodology.
Western educators and researchers should take precautions towards learner variability when they teach or conduct research using the implementation of Western methodology. It is very important to prepare learners who have different cultural, educational, and personal background before implementing the Western methodology (e.g., student centred) by considering information described in this study.

This study represents one small step towards achieving a greater understanding of the effect of CL training and the learning processes of learners from different cultures. The CL training method as well as the learning processes have yet many steps to take before they can be fully established. It is hoped that other researchers and practitioners will also ascertain the value of developing this understanding and will use research, including a large sample, to further enhance FL education practice.
References


null


Lee, C., & Jacobs, G.M. (2001). *Annotated bibliography of works on second language instruction related to cooperative learning specifically or more generally to small group activities.*

http://www.muohio.edu/~iascrewis/JACOBS_BIBLIOGRAPHY.html


null


Panitz, T. (1999). *Collaborative versus cooperative learning: A comparison of the two concepts which will help us understand the underlying nature of interactive learning.*

http://www.capecod.net/~tpanitz/tedspage/tedsarticles/coopdefinition.htm


Appendix A

Definitions for Conversational Adjustments

Clarification requests: utterances made by the listener to clarify what the speaker had said, and included statements such as "I don't understand," wh-questions, yes/no questions, and tag questions.

\[\text{e.g., NNS: A little line in the leave.} \]
\[\text{NS: A what?} \]

Confirmation checks: utterances made by the listener to establish that the preceding utterance had been heard and understood correctly, but they included repetition of all or part of the utterance, accompanied by rising intonation.

\[\text{e.g., NNS1: Where do the, um, glasses go?} \]
\[\text{NNS2: The glasses?} \]

Comprehension checks: utterances made by the speaker to check whether a preceding utterance had been correctly understood by the listener and consisted primarily of questions, either tag questions, repetition with rising intonation, or questions such as "Do you understand?"

\[\text{e.g., NNS: You know what, you know?} \]

Repetition (Partial, Complete, Expanded and Other repetition) : included partial and exact repetitions of lexical items from an interlocutor's preceding utterances within five speaking turns. They also included expansions of the other's utterances.

\[\text{e.g., NNS1: A man have, a man have, er, two arm?} \]
\[\text{NNS2: Yes, two arm.} \]

\[\text{(Allwright et al., 1991, p. 140)} \]

Clarification requests: a request for further information from an interlocutor about a previous utterance.

Confirmation checks: the speaker's query of the interlocutors as to whether or not the speaker's expressed understanding of the interlocutor's utterance is correct.

Comprehension checks: the speaker's query of the interlocutors as to whether or not they have understood the speaker's previous utterance.

\[\text{(Chaudron, 1988, p.45)} \]
Appendix B

Speech Production Measurements

1. C-units

A widely used discourse analysis unit is the *turn*, which is commonly defined as “any speaker’s sequence of utterances bounded by another speaker’s speech” (Chaudron, 1988, p. 45); and “one or more streams of speech bounded by speech of another, usually an interlocutor” (Crookes, 1990, p. 185). Samuda and Rounds (1993) suggested that the number of *turns* generated per dyad served as a broad indicator of the substantial amount of overall interaction and the number of opportunities each individual potentially had to speak. On the other hand, Crookes (1990) pointed out that since its boundaries are determined by the processes of speaker interaction, it does not reflect processes of an individual’s speech production. The following example reflects what he indicated:

A:  Yesterday, I went to the mall, and bought ..., Can you guess what I bought?
B:  No.
A:  A pair of sunglasses, a hat, a pair of sandals, and a T-shirt. Getting warm outside now.
B:  Yeah, I know.

In dialogue above, as long as the *turn* is concerned, A and B have the same frequency of *turns* (i.e. two *turns* each); however, different processes in A and B’s speech production are apparent.

Foster (1998) showed her concern that the best way to measure speech production had not been determined in previous research. She indicated, however, that the *T-unit* and the *c-unit* were the two measures most widely used in studies. The *T-unit* is “one main clause plus whatever subordinate clauses happened to be attached or embedded within it” (Hunt 1966, p. 735). An independent clause was defined as a simple sentence containing at least one subject and one verb (Celce-Murcia & Larsen-Freeman, 1999). Thus, in the example above, there were two *T-units* in the first turn, and one *T-unit* in the fourth turn. There is, however, no *T-unit* identified in the second and third turns.
according to the definition. The *T-unit* which was originally designed for the assessment of written English (Crookes, 1990) may not appropriately be adopted as the unit of measure for oral discourse. In many studies, grammatically incomplete phrases are identified in oral language. Especially, to measure frequency of oral discourse in a language, such as Japanese, in which a speaker would normally omit a subject, the *T-unit* is not applicable.

Meanwhile, “the *c-unit* (communication unit: Loban 1966) is closely related to the *T-unit*, but has the advantage that isolated phrases not accompanied by a verb, but which have a communicative value, can be coded” (Crookes, 1990, p. 184). The *c-unit* was defined by Brock (1986) as independent utterances (e.g., words, phrases and sentences, grammatical and ungrammatical), which provide referential or pragmatic meaning. The *c-units* are more sensitive to the transmission of meaning and a more appropriate measure for an investigation into oral language than *T-units* (Foster, 1998). Therefore, the *c-units* are likely appropriate to code Japanese discourse, in which the subject is normally omitted in grammatical sentences. Also, *c-units* are more sensitive to code dialogue which is delivered by non-native speakers (NNS) of the language, especially at the beginner’s level, because their dialogue is often grammatically incorrect and incomplete, yet communicatively valuable as seen in the example above. In the prior example, the first turn produced by A include two *c-units*, one *c-unit* in the second turn by B, two in the third by A, and one *c-unit* in the last turn by B. In total, learner A produced four *c-units*, and learner B produced two *c-units*. From the analysis using *c-units* indicates although they had the same number of turns, their participation was not balanced. Thus, this measurement appeared to more closely reflect the processes of an individual’s actual language production than other units previously discussed (i.e., *turn* and *T-unit*).
2. A model for language related episodes (LREs)

Language related episodes (LREs) are any segment of the protocol in which a learner either spoke about a language problem s/he encountered while writing and solved it, either correctly or incorrectly; or simply solved it (again, either correctly or incorrectly) without having explicitly identified it as a problem (Swain & Lapkin, 1995, p.378). Following Kowal and Swain’s (1994) categories, LREs would be classified into meaning-based, grammatical, and orthographic episodes as examples below which were excerpted from Haneda (1996, p.110). Translations of Japanese sentences and comments are given in square brackets.

**Meaning-based Episode**

(Alan and Gila try to figure out the meaning of the word geshuku, “a boarding house”)

055 Alan: yeah, keshuku.
056 Gila: Daigakusei wa [A university student]....
057 Alan: Daigakusei wa, uhh, apaato to keshuku [ A university student, uhh, an apartment and a boarding house]....
058 Gila: Keshi, keshu, what was keshu ... [keshi, keshu... = try to say geshuku]
059 Alan: Keshuku, heavy, hmmm, it’s a tradition [wrongly pronounced as keshuku again, it should have pronounced correctly as geshuku].
060 Gila: No, it was shuukan. What was keshuku [geshuku]?
061 Alan: Like a boarding house?
062 Gila: yeah, right, right. Hai. Hai [yes, yes].

**Grammatical Episode**

(The verb “iru” is an intransitive verb in Japanese, whereas the verb “to need” is a transitive verb in English.)

065 Cindy: Okane ga irimasu [the money is needed], what’s irimasu [the polite form of “iru”]?  
066 Simon: Irimasu, to need, ireru [to put (wrongly conjugated instead of “iru”)], iri, irimasu, Yeah, ‘is needed.’
067 Cindy: What’s the dictionary form [a dictionary form is equivalent to infinitive in English]?  
068 Simon: Iru, iru [responding to the question above, iru is a dictionary form of irimasu].
069 Cindy: Okay.
070 Simon: iru, soo desu [it seems to be needed].
Orthographic Episode

010  Gila:  Nihon de apaato o kariru [rent an apartment in Japan], how do you write kariru [to rent], I forgot the kanji [Chinese character]. Anyhow, kariru.
011  Alan:  Kariru?
012  Gila:  Yeah, we learned kariru xxx I forgot it.
013  Alan:  You mean, the kanji?
014  Gila:  Uh-huh. Anyhow, it's okay.
015  Alan:  Hmmm.

Embedded Episode

There may be instances where one episode will be embedded within another as noted in Kowal and Swain (1994).

165  Alan:  Ikkagetsu [a month]...
166  Gila:  Ikkagetsu me [the first month]? Ikkagetsu me no [of the first month]
167  Alan:  Me to. No, ikkagetsu no yachin [one month's rent]? I think it's yachin [a rent].
168  Gila:  Yachin [a rent]?
169  Alan:  Yeah, one-month's rent.
170  Gila:  Ikkagetsu no yachin [one month's rent]. Ehh, ikkagetsu me no yachin [the first month's rent], Uhhh...
3. A model for collaborative dialogue

The codes for the constructive process appearing in collaborative dialogues are adopted from social interaction strategies described in Bejarano et al.’s (1997) study.

According to Bejarano et al. (1997), these are necessary for maintaining the flow of a cohesive and coherent group discussion in which students react to each other and relate to what other members in the group said, rather than deliver their own independent or unrelated short speeches which results in non-interaction participation. This set of strategies is categorized as follows:

**Elaborating:** A participant builds on a previous comment, enlarging on it by giving examples and adding sentences in order to expand the discourse unit.

NNS1: I can say that on our kibbutz... it is a problem of nothing to do... there is nothing...
NNS2: You don’t have interesting things. You don’t have something to change...

**Facilitating flow of conversation:** A participant uses promoters that encourage continuation of the conversation.

NNS1: I think you are wrong because...
NNS2: You really think so? Why do you say that?

**Responding:** A participant responds to a content-related question asked by a member of the group. Such responses can include expressions of agreement or disagreement.

NNS1: I have a kibbutz with a lot of money so I stay. But in the other kibbutz...
NNS2: I not agree with you. I think....

**Seeking information or an opinion:** A participant asks for the speaker’s opinion or seeks relevant or more detailed information.

NNS1: I think that ... there are no values today...
NNS2: What do you mean by “value”?

**Paraphrasing:** A participant clarifies the previous speaker’s contribution by restating it in his own words.

NNS1: I can talk about my kibbutz. I know that in my kibbutz they do everything that ... all this for young people to come back from the army...
NNS2: Did you say... you say... that the kibbutz do everything that the young people that come back?

(from Bejarano et al., 1997, p. 206)
CERTIFICATE OF ETHICS CLEARANCE TO INVOLVE HUMAN PARTICIPANTS IN RESEARCH

Application Status: New  x  Addendum  ____  Renewal  ____  REB File # 094


<table>
<thead>
<tr>
<th>NAME</th>
<th>DEPT./ADDRESS</th>
<th># EXT</th>
<th>E - Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investigator(s)/Supervisor(s)</td>
<td>Hedy M McGarrell</td>
<td>Applied Linguistics, Brock</td>
<td>9056885550 Ext 3757</td>
</tr>
<tr>
<td>Student Investigator(s)</td>
<td>Sonomi Iwata-Consul</td>
<td>Education, Brock University</td>
<td>9058929010</td>
</tr>
</tbody>
</table>

The application in support of the above research project has been reviewed by the MREB to ensure compliance with the Tri-Council Policy Statement and the McMaster University Policies and Guidelines for Research Involving Human Participants. The following ethics certification is provided by the MREB:

X The application protocol is approved as presented without questions or requests for modification.

The application protocol is approved subject to receipt of clarification and/or modifications as identified below.

The decision is deferred, pending receipt of additional information or major revisions as identified below.

REQUEST FOR ADDITIONAL INFORMATION (Forward requested information to the MREB Secretariat)

Copy of final interview/survey/questionnaire is required.

Consent form/statement is incomplete or missing. (Refer to Guidelines)

Copy of cover letter explaining the study is required.

Required revisions have been outlined in a transmitted e-mail (copy attached).

Required revisions are outlined under the Comments & Conditions section below.

COMMENTS & CONDITIONS:

Reporting Frequency: Annual Date: Other:

February 18, 2000  Dr. E. Boetzkes, Acting Chair, REB:

Q:/ethicalforms/certify094.frm
2. Consent form

BROCK UNIVERSITY

DEPARTMENT OF GRADUATE AND UNDERGRADUATE

STUDIES IN EDUCATION

INFORMED CONSENT FORM

Title of Study: “Collaborative Learning in a Japanese as a Foreign Language Classroom”

Supervisor: Hedy M. McGarrell, Ph. D

Researcher: Sonomi Iwata-Consul

Name of Participant: (Please print)

I understand that this study in which I have agreed to participate will examine an aspect of collaborative learning in Japanese as a foreign language classroom. During the study I will be asked to give permission to the researcher to analyze the learning outcomes, questionnaires and the test scores for the purpose of her research project. Whether or not I grant the researcher permission to analyze the data will not affect my grade.

I understand that my participation in this study is voluntary and that I may withdraw from the study at any time and for any reason without penalty.

I understand that there is no obligation to answer any question/participate in any aspect of this project that I consider invasive.

I understand that all personal data will be kept strictly confidential and that all information will be coded so that my name is not associated with my answers. I understand that only the researchers named above will have access to the data.

Participant Signature __________________________ Date _________

If you have any questions or concerns about your participation in the study, you may contact Sonomi Iwata-Consul at 905-892-9010 or Dr. Hedy M. McGarrell at 905-688-5550, extension 3757.

The letter of information will be distributed by e-mail in the second week of April. A summary of the study, and a copy of the results will be available during my office hour in TA’s office (TSH 726) in October, 2000 at McMaster University. Thank you for your help! Please take one copy of this form with you for further reference.

I have fully explained the procedures of this study to the above volunteer.

Researcher Signature __________________________ Date _________
Appendix D

The Collaboration Questionnaires

The students' self-administered pre- and postintervention questionnaires are modified versions of Roskams' (1999, pp.110-118) pre- and post-collaboration questionnaires. Part I consisted of numerically coded questions on pair work. The measure for this study was designed to evaluate learners' perceptions of pair work (Questions 1-3, 5, 7, and 9), learners' beliefs on teacher and peer feedback (Questions 4 & 10), preferences on how to change a partner (Questions 6 & 8), how to choose a partner (Question 11), learners' perceptions of difficulty when working in pairs (Question 12), and learners' preferences of learning style (Question 13). Part II consisted of open-ended questions. The measure assessed learners' attitudes towards pair work inside and outside of the classroom (Question 1 & 2), learners' positive comments on learning in pairs (Question 3), and learners' negative comments on learning in pairs (Question 4). A pre-collaboration questionnaire was used to examine Asian learners' self-claimed attitude, beliefs, and preferences of pair work before training with practice, and a post-collaboration questionnaire was used to analyze influence of training with practice on their perception of pair work. Also, both questionnaires were used to support the results of the audio-taped data.
Preintervention Questionnaire

Please complete the questions below as accurately as you can. Your information is very valuable and will be used for course improvement and research. It will not affect your course grade. If any question seems inappropriate to you, feel free to skip it. Thanks.

Name: ________________________________

How familiar are you with group work in academic courses?

<table>
<thead>
<tr>
<th>Tutorial No.</th>
<th>Very Familiar</th>
<th>Not Familiar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4  3  2  1</td>
<td></td>
</tr>
</tbody>
</table>

**Part 1:** Please circle the one option that best reflects what you think.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Two people can make better decisions than an individual.</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Practising speaking Japanese with my partner is more comfortable than practising with my teacher.</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I can solve problems more quickly alone than with my partner.</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I prefer to practise speaking Japanese with my teacher rather than my partner, because the teacher’s feedback is much more helpful.</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Memorizing Japanese words is easier if I practise with a partner rather than alone.</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I like the idea of working with the same partner for the whole term.</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Working with a partner will lead to a better grade than working alone.</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I like to change partners every time I work in pairs.</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Working with a partner helps me improve my Japanese.</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. The teacher can provide much more useful comments on my work than other students in my class.</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. If I have a choice, I prefer to work with....</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) ...a partner I choose.</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) ...a partner the teacher chooses</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) ...a partner who shares my cultural background</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. When I work in pairs,</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) ...sharing the same quantity of work is very difficult.</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) ...sharing the same quality of work is very difficult.</td>
<td>4  3  2  1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
c) ...accommodating differences in personalities or attitudes is very difficult.

13. I like

a) ...whole class discussions.

b) ...small group work (about 3-4 people).

c) ...working in pairs.

d) ...working alone.

e) ...listening to a lecture by a teacher.

Part II: Please answer the following questions.

1) Do you plan to work in pairs to accomplish assignments in this course? Yes       No

2) Please choose one option to indicate how much you expect to work with your partner outside class hours:

   _______ more than one hour per week

   _______ between half an hour and one hour per week

   _______ less than half an hour per week

   _______ not at all

3) Please express any positive comments you may have on learning in pairs.

   ................................................................................................................

   ................................................................................................................

4) Please express any negative comments you may have on learning in pairs.

   ................................................................................................................

   ................................................................................................................

Thank you very much.
The Postintervention Questionnaire

Please answer the questions about working in pairs over the term. Your information is very valuable and will be used for course improvement and research. It will not be used for assessment. If any question seems inappropriate to you, feel free to skip it. Thanks.

Name: ________________________________

Tutorial No. ________

Part 1: Please circle one option that best reflects what you think.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Two people can make better decisions than an individual.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. Practising speaking Japanese with my partner is more comfortable than practising with my teacher.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3. I can solve problems more quickly alone than with my partner.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. I prefer to practise speaking Japanese with my teacher rather than my partner, because the teacher’s feedback is much more helpful.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5. Memorizing Japanese words is easier if I practise with a partner rather than alone.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>6. I like the idea of working with the same partner for the whole term.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7. Working with a partner will lead to a better grade than working alone.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8. I like to change partners every time I work in pairs.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>9. Working with a partner helped me improve my Japanese.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10. The teacher can provide much more useful comments on my work than other students in my class.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>11. If I have a choice, next time I prefer to work with....</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) ...a partner I choose.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>b) ...a partner the teacher chooses</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>c) ...a partner who shares my cultural background</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>12. When I worked in pairs,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) ...sharing the same quantity of work was very difficult.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>b) ...sharing the same quality of work was very difficult.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
c) ...accommodating differences in personalities or attitudes was very difficult.

13. I like

a) ...whole class discussions.  

b) ...small group work (about 3-4 people).  

c) ...working in pairs.  

d) ...working alone.  

e) ...listening to a lecture by a teacher.

Part II: Please answer the following questions.

1) Did you plan to work in pairs to accomplish assignments in this course?  

   Yes    No

2) Please choose one option to indicate how much you worked with your partner outside class hours:

   _____ more than one hour per week
   _____ between half an hour and one hour per week
   _____ less than half an hour per week
   _____ not at all

3) Please express any positive comments you may have on learning in pairs.

   __________________________________________________________
   __________________________________________________________

4) Please express any negative comments you may have on learning in pairs.

   __________________________________________________________
   __________________________________________________________

Thank you very much.
Appendix E

Procedures of Dictogloss

The implementation of a pretest was conducted through a predictogloss activity. Approximately 50 minutes were required for conducting the dictogloss, including preparation, dictation, reconstruction, and analysis & correction. The dyad interaction occurring during the reconstruction stage (20 minutes) was audio-taped. Data from the predictogloss activity was used for the analysis of Asian learners’ interaction features before training with practice. The text for dictation was chosen from the course textbook and was modified to focus on the specific grammatical features (e.g. te-form, tai-form, ndesu-form, etc.). Also, considering the learners’ beginner level proficiency, a short conversation rather than a descriptive text was designed so that each learner listened to a short sentence for each part. Then, later learners in pairs combined each part of the dialogue as if filling in an information gap between them.

Predictogloss

Topic: On Your Birthday

Language points: Invitation (verb + masenka-form), Te-form, Tai-form, and Particles

1) Warm-up (15 minutes):

1. “What do you do on your birthday?” was written on the blackboard in Japanese, then answers were elicited from students. Students’ answers were written on the blackboard.
2. Students were asked to write in their notebook two things to do on their birthday, connecting with te-form (e.g., I go to Toronto, and have a gorgeous dinner with my friends), and then say what they wrote on notes in class.
3. When students seemed to forget how to formulate te-form, pictures of actions on transparencies were shown and reviewed.
4. “What would you like to eat on your birthday?” was then written on the board and asked. Their answers were written on the board.

2) Pretext Vocabulary (5 minutes):
   meal: breakfast, lunch, dinner
   food: tempura, sushi, pizza, cake, etc.
   locations: Toronto, Niagara, Hamilton
   verb: want to, would you like to~
   particles: wa, ga, ni

3) Dictation text (3 minutes): Learners heard the taped dictation three times. Before listening to the tape, learners were asked to form pairs, and then decided which student would be responsible for which part (A or B) after listening once. There were five-second pauses between sentences in order to allow learners to take fragmentary notes.
The learners heard the text at normal spoken speed. The English translation of the text is as follows:

A: Tomorrow is your birthday, Ms. Yamada, so would you like to go to Toronto, and have dinner with me?
B: Sounds good!
A: What would you like to eat?
B: Let me see ... I 'd like to eat tempura.
A: O.K. Let's do so.
B: What time shall we meet tomorrow?
A: How about 5:30 p.m.?
B: No problem. See you tomorrow then.

4) Reconstruction (20 minutes): As soon as the dictation was finished, the learners in pairs proceeded to combine their notes and work on their version of the text. The instructor monitored activity to provide minor corrections (peripheral errors) to learners while they were still drafting their texts. Since a text had been chosen for its structural language points (i.e. invitation-form, te-form, tai-form, and particles), the main errors in these areas at the drafting stage were not eliminated so that the final error analysis could focus clearly on the main point of the lesson. When it was completed, the group checked the text for grammar, textual cohesion, and logical sense. The final draft was written down on transparencies for the final error analysis in class. Interaction in pairs during this reconstruction stage was recorded on tape.

5) Error Analysis (7 minutes): Students were encouraged to analyze and correct the various versions and discuss the language choices made. Learners saw the original text after their own versions had been analyzed.

Postdictogloss

The implementation of a posttest was conducted through a postdictogloss activity (approximately 50 minutes). By comparing dyad interactions – the results of pre- and postdictogloss in both control and treatment groups – the effects of training and practice were identified.

Topic: Telephone Conversations

Language points: Te-form; Asking and Giving Explanation (ndesu-form), Asking for permission, and Refusing indirectly (Japanese people tend to refuse indirectly rather than directly in Japanese society), and Particles.

1) Warm-up (15 minutes):
1. Students were asked what they say when making a telephone call in Japanese, and how they greet each other (hello, good morning, good afternoon, good evening). Students' responses were written on the blackboard.
2. Grammatical points of [the] te-form combining two adjectives (e.g., lively and interesting) were reviewed. When students seemed to forget how to combine
adjectives using [the] te-form, pictures of adjectives on transparencies were shown, and students practised how to combine them.

3. Reviewed how to ask and give explanation using ndesu-form, how to ask for permission using "temo iidesuka" (May I...?), and how to refuse indirectly using "sumimasenga chotto..."(I’m sorry but...).

2) Pretext Vocabulary (5 minutes):
- greeting: good morning, hello, good evening
- time expressions: today, tomorrow, last week
- adjectives: good, lively, interesting
- particles: wa, ga, ni, mo

3) Dictation text (3 minutes): Learners heard the taped dictation three times. Before listening to the tape, learners were asked to form pairs, and to decide which student would be responsible for which part (A or B) after listening once. There were five-second pauses between sentences so learners could be allowed to take fragmentary notes. The learners heard the text at normal spoken speed. The English translation of the text is as follows:

A: Hello, Michiko. Good evening. This is Michael.
B: Hi, Michael. Good evening.
A: What a nice day today was!
B: Yes, it was a nice day, wasn’t it?
A: Why didn’t you come to the last week’s party?
B: I had a headache. How was the party?
A: It was very lively and interesting party.
B: Oh really? I wish I could have gone to the party.
A: May I come to your house from now, Michiko?
B: I’m sorry, but I will have an exam tomorrow.

4) Reconstruction (10 minutes): As soon as the dictation was finished, the learners in pairs proceeded to combine their notes and work on their version of the text. The instructor monitored activity to correct minor peripheral errors to learners while they were still drafting their texts. Since a text had been chosen for its structural language points (i.e., Te-form, Ndesu-form, asking for permission, refusing indirectly, particles), the main errors in these areas at the drafting stage were not eliminated so that the final error analysis could focus clearly on the main point of the lesson. When it was complete, the group checked the text for grammar, textual cohesion, and logical sense. The final draft was written down on transparencies for the final error analysis in class. Interaction in pairs during this reconstruction stage was recorded on tape.

5) Error Analysis (7 minutes): Students were encouraged to analyze and correct the various versions and discuss the language choices made. Learners saw the original text after their own versions had been analyzed.
Appendix F

Japanese Grammatical Features

The following basic points of Japanese grammar are necessary to understand the characteristics of Japanese verb forms, which were some of lesson aims in this study (adopted from Tohsaku, 1999).

The basic Japanese sentence order is Subject-Object-Verb whereas the basic English sentence structure is Subject-Verb-Object. While the word order in an English sentence is generally fixed, the word order in a Japanese sentence is flexible except for the position of a verb. For example, O-S-V order is possible, and the subject is often omitted in a sentence. The Japanese verbs come at the end of the sentence, clause, or utterance. The grammatical roles of some words in a sentence such as the subject, direct/indirect object are identified by particles, which are also known as postpositions. An example illustrates this:

Japanese: (Watashi wa) terebi o mimasu
S particle O particle V

English: I watch TV.

Verb conjugation is not affected by gender, number or person of the subject, but it is affected by tense (past which includes present perfect, past perfect; non past which includes future and present), affirmative/negative, and politeness of speech (polite/plain) (See chart below for an example). At the beginner’s level, students learn mainly polite forms which are used to convey the speaker’s politeness toward the addressee. Learning the polite form earlier than the plain form is common in JAFL, because the ending of polite forms (e.g., bold part in the chart below) is fixed, making it easier for learners to memorize verb conjugations of the polite form. On the other hand, verbs in the plain form have no fixed ending.

Japanese Verb Conjugation Example Chart (to watch)

<table>
<thead>
<tr>
<th></th>
<th>Non Past Affirmative</th>
<th>Non Past Negative</th>
<th>Past Affirmative</th>
<th>Past Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polite (masu-form)</td>
<td>Mimasu</td>
<td>Mimasen</td>
<td>mimashita</td>
<td>Mimasendeshita</td>
</tr>
<tr>
<td>Plain (dictionary-form)</td>
<td>Miru</td>
<td>Minai</td>
<td>Mita</td>
<td>Minakatta</td>
</tr>
</tbody>
</table>

Note. The polite form is described as the masu-form, and the plain form is described as the dictionary-form depending upon the textbook. Japanese verbs are listed in plain/dictionary-form in a dictionary.
Te-form: The students learned two features of the te-form in this study: to make a request, and to express a succession of actions or events. For instance, the te-form of a verb + kudasai (please) is used to ask someone to do something for the speaker (i.e., a polite request). This feature is similar to "imperative form + s'il vous plait" in French, however; it conjugates by the ending of conjunctive form of verb (e.g., the part of the verb before the ending, that is "mi" in the verb "mimasu," for instance). Another feature is that it expresses a succession of actions or events by connecting clauses that end in the te-form of a verb (i.e., -te or -de). When more than two verbs are used in a Japanese sentence in order to express a succession of action or events, all verbs except the last one must be conjugated in the te-form.

Example of sentences using te-form

1. To make a polite request.

Terebi o mi-te kudasai. (Please watch TV.)

TV (particle) watch please.

Hon o yon-de kudasai. (Please read a book.)

Book (particle) read please.

2. To express a succession of actions or events

Terebi o mi-te hon o yon-de nemasu. (I will watch TV, read a book, and sleep.)

Tai-form: The tai-form is used when the speaker expresses a desire. In order to make the tai-form, simply add tai after the conjunctive form of verb. In other words, replace "masu" in the masu-form (polite-form), and replace with "tai".

<table>
<thead>
<tr>
<th>masu-form (polite-form)</th>
<th>tai-form</th>
</tr>
</thead>
<tbody>
<tr>
<td>mi-masu (to watch)</td>
<td>mi-tai   (want to watch)</td>
</tr>
<tr>
<td>yomi-masu (to read)</td>
<td>yomi-tai (want to read)</td>
</tr>
</tbody>
</table>

Example: Terebi o mi-tai. (I want to watch TV.)

Ndesu-form: The ndesu-form is used when the speaker expresses a reason, an explanation, or a justification for whatever s/he is talking about. When this form is used as a question, it means that the speaker wants the listener to give an explanation. In order to make the ndesu-form, add ndesu after the plain form of the verb.

Q: Terebi o miru-ndesu ka? Do you watch TV? (Explain why.)

A: Mi-tai bangumi ga aru-ndesu. (Because,) there is a program I want to watch.
Appendix G

Collaborative Training with Practice (Task)

WEEK 1:

Training (5 minutes): The purpose of this training was to raise students’ awareness of the nature and value of group work, as well to have higher proficiency learners realize that explaining language points to lower proficiency learners is not a waste of their time. Before starting in-class group work for the first time, the instructor announced that she planned on using such exercises regularly during the class, because research showed that students learn by doing, not by watching and listening (Felder & Brent, 1994). The instructor reinforced her points by covering the underlined numerals and had students guess how much of a percentage they would learn by doing each action:

(OHP) WE LEARN......

10% of what we read
20% of what we hear
30% of what we see
50% of what we both see and hear
70% of what is discussed with others
80% of what we experience personally
90% of what we TEACH to someone else

-Glasser, 1986-

Activity (20 minutes): Why do you study Japanese? (L7)

Aims: To express desire using tai-form in order to clarify the student’s motivations and goals

Resources: Worksheet

Procedure:

1) Ask the class what is the expressions of desire, giving some examples (e.g. I want to go to Japan, I want to work in Japanese company, etc.).
2) Distribute the worksheet and ask the learners to discuss the topic with their partner and write down the partner’s answers using the expression (tai-form) in the worksheet for Q1, and circle one option for Q2.
3) Each student state why their partner is studying Japanese and which skill they want to improve most in class if time permitted.
4) The worksheet is submitted for feedback from the instructor.

Worksheet for Week 1

Q1. なぜ日本語を勉強しますか。 (Why do you study Japanese?)

Q2. どの技能を一番のばしたいですか。 (Which skill do you want to improve most?)

聞く 話す 読む 書く その他 (発音、文法、漢字、語彙)

(Listening, Speaking, Reading, Writing, Others – pronunciation/grammar/kanji/vocabulary.)

Note: The worksheet students received was written in Japanese.
WEEK 2:

Training (5 minutes): The purpose of this training was to teach social interaction skills in Japanese. Beginner-level language learners may profit by pre-practising some essential phrases that promoted effective interaction in pair work. These types of phrases needed to be pre-taught and practised (Bassano & Christison, 1995). The instructor made a poster as below so that students could review these kinds of phrases before each group task. By practising these phrases, learners could prepare for real life situations (Bassano & Christison, 1995). The instructor also emphasized that taking turns equally in pairs was important in order to carry out meaningful communication during a conversation (Bejarano et al., 1997).

Useful Phrases We Can Use:

- I don’t understand.
- Could you say it again?
- Excuse me?
- Speak more slowly please.
- Let me see it.
- Are you finished?
- Just a minute.
- I need your help.
- It’s your turn.
- It’s my turn.
- Okay?
- Do you understand?

Activity (20 minutes): Calendar Dictation (Lesson 5 & Lesson 8)

Aims: To dictate the day of the week, dates, and months; to practise how to request things using the te-form; to learn to interact with one another to promote maximum and equal participation.

Resources: A copy of the calendar; dictation sheet A and B; 20 coins for each pair.

Procedure:

1) Post “Phrases We Can Use” on the board, and told students that every time they use phrases from the poster, they are to take out a coin and put it in front of the individual’s desk.

2) Each student has a calendar page. Partner A had Dictation Sheet A, Partner B had Dictation Sheet B. On each Dictation Sheet, six dates were listed in Japanese.

3) Partner A dictates six dates to Partner B, requesting: “Write an X on Monday, July 8” or “Write a circle around Wednesday, August 14” using the te-form in Japanese.

4) Partner B then dictates her/his dates, while Partner A followed the instructions.

5) The worksheet is submitted with the number of coins each student in pairs achieved.

(adopted from Bassano & Christison, 1995)
Worksheet for Week 2

Dictation Sheet A
Request your partner to write "X" on:
- Monday, July 8
- Wednesday, August 14
- Saturday, September 28
Request your partner to write "O" on:
- Sunday, October 10
- Tuesday, November 5
- Thursday, December 12

Dictation Sheet B
Request your partner to write "X" on:
- Monday, July 29
- Wednesday, August 7
- Friday, September 20
Request your partner to write "O" on:
- Thursday, October 31
- Saturday, November 2
- Tuesday, December 23

Calendar

(from Bassano & Christison, 1995, p. 99)

Note: The phrases in the poster and the dates in the Dictation Sheet A & B will be written in Japanese.
WEEK 3:

**Training (5 minutes):** The purpose of this training was to raise students' awareness for reviewing with peers outside of the classroom, in order to learn the Japanese language efficiently. Especially for beginning students of the Japanese language who are involved with many new unfamiliar words to memorize (Tohsaku, 1999), they need to organize their time effectively. The instructor presented figures from Ellis & Sinclair (1989) to show how learners could improve their memory, by arranging regular times for a review outside of class. Figure 1 indicated how it is possible to forget 80% of what they learned within 24 hours if they did not review. Figure 2 showed how regular reviews could help learners to keep their recall level high. The instructor emphasized “how important it was to start reviewing just at the time when learners feel they could remember the most, usually about ten minutes after learning” (Ellis & Sinclair, 1989, pp 16-17). Then, the instructor suggested it might help learners to share the review with peers, so that both learners could study together, practice speaking, compare strategies, measure progress, give each other support, discuss problems, and so on. (Gardner & Miller, 1996, p.8).

**Activity (20 minutes):** How do you review Japanese with your partner? (L8)

**Aims:** To describe means to review using the te-form.

**Resources:** Worksheet

**Procedure:**

1) Review the te-form describing means (e.g., reviewed by listening to the tape, review by reading newspapers, etc.).
2) Distribute the worksheet describing how to review Japanese with a partner in English.
3) Ask each pair to check the options on the worksheet that they are going to do together for review, and write them down in Japanese.

Worksheet for Week 3

どうやって、友達と日本語を復習しますか。 (How do you review Japanese with your partner?)

We review Japanese

- by studying in the library
- by speaking with Japanese native speakers
- by listening to the class tape
- by singing Japanese songs
- by reading Japanese newspapers
- by watching Japanese TV programs/videos

•

•

•
1.4 How do you organise your learning?

Figure 1

Figure 2

(Ellis & Sinclair, 1989, pp 16-17)
WEEK 4:

Training (5 minutes): The purpose of this training was to reinforce the use of social interaction skills. The instructor posted useful Japanese phrases which were introduced during the training session for week 2, to enable students to provide extended practice for these phrases before their group task. The instructor also articulated that taking turns equally in pairs was necessary for carrying out meaningful communication during pair work.

Activity (20 minutes): Making up dialogues asking for explanations (Lesson 11)

Aims: To give and ask for explanations by using the ndesu-form; To learn to interact with one another to promote maximum and equal participation.

Resources: Worksheet; 20 coins for each pair.

Procedure:
1) The instructor distributes a bag of 20 coins to each pair.
2) Then, the students are instructed that every time they used phrases from the poster, they are to remove a coin from the bag and put it in front of the individual’s desk.
3) After a review of vocabulary for this activity in class, each pair creates a dialogue giving and asking for explanations on worksheet. First, they translate English into Japanese, then ask for explanations using why and the ndesu-form. Finally, the question is answered by giving an explanation using the ndesu-form.
4) After the completion of the task, each pair is asked to write their dialogue for one of three questions on the blackboard, and will get feedback from learners and the instructor.
5) The worksheet is submitted with the number of coins each student in the pair achieved.

Worksheet for Week 4
Make up dialogues asking and giving explanations.

Example: I went to Toronto last week => A: 先週、トロントへ行きました。 B: どうして先週トロントへ行ったんですか。[Why did you go to Toronto?] A: フラワーショーがあったんです。[Because there was the flower show.]

1. I did not go to the party yesterday. => A: 
   B: 
   A: 
2. I use a computer very often. => A: 
   B: 
   A: 
3. I want to marry my boyfriend/girlfriend. => A: 
   B: 
   A: 
WEEK 5:

Training (5 minutes): The purpose of this training was to review and consolidate the value of social interaction strategies. The instructor reviewed what the students learned during the training session, showing presentation materials from week 1 to 3. This review was helpful for the students who missed the training sessions, and it also worked as a consolidation of the use of social interaction skills for the students who participated in all sessions.

Activity (25 minutes): Collaborative listening practice
Aims: To consolidate the use of social interaction strategies by discussing listening problems in pairs; to review vocabulary (days of the week, time, sports, hobbies, action verbs, particles etc).

Resources: Worksheet, a tape.

Procedure: 1) The instructor reviews vocabulary in class.
2) The learners in pairs listen to four sets of dialogues twice from the tape. In conversations, a magazine reporter interviews pedestrians asking them what days of the week they have off, what time they get up, and how they spend their days off.
3) After listening to the tape twice, students in each peer group discuss what they understood.
4) The worksheet is submitted for feedback from the instructor.

Worksheet for Week 5

(from 24 Tasks for basic Modern Japanese, 1989)
## Appendix H

### Frequency of C-units, LREs, and CD

1. Number of C-Units, LREs, and CD produced by each student

<table>
<thead>
<tr>
<th>Treatment Group/Pretest</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>H</td>
</tr>
<tr>
<td>No. of C-units</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of LREs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meaning-based Episodes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Checking the meaning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of word or phrase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Reconstructing the</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>meaning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Talking about a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lexical choice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grammatical Episodes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Particles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Verbs/Adjectives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Phrase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orthographic Episodes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Kanji (Chinese</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>characters)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Hiragana (Japanese</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>alphabet)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Katakana (Modified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>kana)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of CD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Elaborating</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Facilitating</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Responding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Seeking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Info./opinion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Paraphrasing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. Number of C-units, LREs, and CD in pairs

<table>
<thead>
<tr>
<th>Pair</th>
<th>No. of c-units</th>
<th>No. of LREs</th>
<th>No. of Collaborative Dialogue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ME</td>
<td>GE</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Appendix I

### Final Draft Rating Scale

<table>
<thead>
<tr>
<th>Scale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>Not enough to evaluate.</td>
<td>Inadequate development of topic.</td>
<td>Mostly relevant to topic but lacks detail.</td>
<td>Adequate range.</td>
<td>Appropriate for assigned topic.</td>
</tr>
<tr>
<td>Organization</td>
<td>No organization.</td>
<td>Ideas confused or disconnected.</td>
<td>Incomplete sequencing, but support main ideas.</td>
<td>Loosely organized.</td>
<td>Cohesive and logical sequencing.</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>Little knowledge of Japanese vocabulary.</td>
<td>Meaning confused or obscured.</td>
<td>Occasional errors of word/idiom spelling, choice, and usage, but meaning not obscured.</td>
<td>Adequate range.</td>
<td>Effective word/idiom choice and usage.</td>
</tr>
<tr>
<td>Morphology(^a)</td>
<td>No mastery of inflectional words.</td>
<td>Serious errors of inflectional words, and meaning confused or obscured.</td>
<td>Several errors of inflectional words, but meaning seldom obscured.</td>
<td>Adequate with minor errors.</td>
<td>Demonstrates mastery of inflectional words.</td>
</tr>
<tr>
<td>Syntax(^b)</td>
<td>No mastery of grammar points.</td>
<td>Frequent errors in simple constructions, and meaning confused or obscured.</td>
<td>Occasional errors in complex grammatical features, but meaning not obscured.</td>
<td>Adequate with minor errors.</td>
<td>Mastery of grammar points.</td>
</tr>
</tbody>
</table>

**Note.** \(^a\)Morphology represents the study of word forms. In this study, the focus was on inflectional adjectives and verbs since there is no distinction between singular and plural form in Japanese words. \(^b\)Syntax refers to the grammatical principles, units, and relations involved in sentence structure (R. A. Jacobs, 1995). The raters examined all grammatical features except inflectional words in this category.
Appendix J

Glossary of Terms

Asian learners: refers to the learners who are mainly from the countries in which people share knowledge of “Confucian-heritage cultures (CHC)” in the society. For example, Ho (1991, as cited in Biggs, 1996) listed China, Taiwan, Singapore, Hong Kong, Japan, and Korea as CHC countries.

Collective scaffolding: refers to the phenomenon where members of a group share their individual knowledge and provide assistance collectively to accomplish a goal (Donato, 1994, as cited in Takahashi, 1998).

Critical Language Episode: an episode in which language was the focus on the discussion (either meaning-based), or relating to issues of accuracy, (grammatical or orthographic in nature) (Kowal & Swain, 1994, pp. 79-80).

Dyads: refers to a group of two.

Focus on form: is defined as “overtly draws students’ attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication” by Long (1991, pp. 45-46). According to Doughty & Williams, 1998, p.2), “… by the findings of immersion and naturalistic acquisition studies that suggest that when classroom second language learning is entirely experiential and meaning-focused, some linguistic features do not ultimately develop to targetlike levels” due to a lack of focus on form instruction.

Focus on meaning: an approach that focuses on getting the message across and the use of language in communicative language teaching.
**Information gap activity (IGA):** refers to the primary reason for human communication: each person possesses information that is unknown to others; to overcome the “gap,” individuals must communicate with anyone who has the information needed. The result is called an Information Gap Activity (Walz, 1996). In a Jigsaw task, both students have equal amounts but different kind of information, while in the Information Gap Activity, one student has all the information that the other needs (Pica et al., 1993).

**Input:** refers to the target language samples to which the learner is exposed. It contains the raw data, which the learners have to process and incorporate into their evolving internal system.

**Language Related Episodes (LREs):** any segment of the protocol in which a learner either spoke about a language problem s/he encountered while writing, and solved it either correctly or incorrectly; or simply solved it (again, either correctly or incorrectly) without having explicitly identified it as a problem (Swain and Lapkin, 1995, p. 378).

**Lockstep:** a teacher sets the same instructional pace and content for everyone, by lecturing, explaining a grammar point, (assigning) drill work, or asking questions of the whole class.

**Maximal negotiation of meaning:** refers to the highest frequency of negotiation of meaning possible, which has been widely assumed to increase learners’ opportunities to receive comprehensible input and produce modified output in SLA.
**Metatalk:** refers to “using language to reflect on language use” (Swain, 1998, p. 68). Swain suggested that metatalk contributes to the development of learners’ cognitive systems. In metatalk, noticing, hypothesis formulation and testing (cognitive problem solving), and other learning processes (e.g., comprehending) may be made available for inspection (Swain, 1998).

**Negotiate for form:** Learners negotiate exchanges in order to solve grammatical problems. Swain (1998) suggested that a practice of negotiation for form is necessary to convey messages in a grammatically correct form, and it would contribute to learners’ interlanguage development.

**Negotiate for meaning:** Learners negotiate exchanges in order to solve linguistic problems (e.g., difficulties in encoding or decoding messages). As learners negotiate for meaning, they modify their interaction by using conversational adjustments (see Appendix A). However, Swain (1985) argues that negotiating for meaning needs to incorporate the negotiating form in order to deliver a message precisely, coherently, and appropriately.

**Optimal conditions:** refers to a classroom environment, which promotes the maximum number of opportunities for learners to interact with each other to accomplish the task using their TL. These opportunities would be provided to the learners through explicit training and form focused tasks in self-selected pairs in this study.

**Output:** refers to the target language samples the learner produces. Swain (1985) proposed a comprehensible output hypothesis, in that language acquisition might occur through producing language.
Scaffolding: According to Chaudron (1988), the phenomenon known as “scaffolding” was derived from cognitive psychology and first language (L1) research. Chaudron (1988) explained that “the import of this concept is that in various conversational or other task-related interaction, the ‘vertical discourse’ – the sequence of turns taken with conversants – aids learners in gradually incorporating portions of sentences, lexical items, reproducing sounds, etc., in meaningful ways rather than mechanical repetition or lengthy monologues” (p. 10).

Turn: refers to any sequence of utterances from one speaker bounded by another speaker’s speech (Chaudron, 1988, p. 45) or “one or more streams of speech bounded by speech of another, usually an interlocutor” (Crookes, 1990, p. 185).

Zone of proximal development (ZPD): referred to the “distance between the actual developmental level as determined by independent problem solving and the level of potential guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86). It was interpreted as “the zone in which an individual is able to achieve more with assistance than he or she can manage alone” by Wells, G. (2000).
Table 6

Raw Data in Pairs for Pre- and Posttests

<table>
<thead>
<tr>
<th>Pair (TG)</th>
<th>No. of C-Units (Pre)</th>
<th>No. of LREs (Pre)</th>
<th>No. of CD (Pre)</th>
<th>Draft Score (Pre)</th>
<th>No. of C-Units (Post)</th>
<th>No. of LREs (Post)</th>
<th>No. of CD (Post)</th>
<th>Draft Score (Post)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 A</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>22.5</td>
<td>24</td>
<td>4</td>
<td>2</td>
<td>22.5</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>13.5</td>
<td>15</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2 C</td>
<td>15</td>
<td>0</td>
<td>8</td>
<td>19.5</td>
<td>27</td>
<td>2</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>D</td>
<td>11</td>
<td>5</td>
<td>9</td>
<td>19.5</td>
<td>23</td>
<td>10</td>
<td>14</td>
<td>21.5</td>
</tr>
<tr>
<td>3 E</td>
<td>28</td>
<td>5</td>
<td>8</td>
<td>12</td>
<td>63</td>
<td>8</td>
<td>8</td>
<td>23.5</td>
</tr>
<tr>
<td>F</td>
<td>32</td>
<td>5</td>
<td>6</td>
<td>19</td>
<td>58</td>
<td>7</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>4 G</td>
<td>19</td>
<td>6</td>
<td>5</td>
<td>19</td>
<td>42</td>
<td>8</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>H</td>
<td>39</td>
<td>10</td>
<td>6</td>
<td>19</td>
<td>48</td>
<td>7</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>5 I</td>
<td>42</td>
<td>12</td>
<td>14</td>
<td>23</td>
<td>46</td>
<td>14</td>
<td>27</td>
<td>25</td>
</tr>
<tr>
<td>J</td>
<td>45</td>
<td>13</td>
<td>14</td>
<td>23</td>
<td>39</td>
<td>13</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td>6 K</td>
<td>53</td>
<td>33</td>
<td>85</td>
<td>109.5</td>
<td>82</td>
<td>40</td>
<td>128</td>
<td>122.5</td>
</tr>
<tr>
<td>L</td>
<td>48</td>
<td>85</td>
<td>109.5</td>
<td>122.5</td>
<td>78</td>
<td>128</td>
<td>122.5</td>
<td></td>
</tr>
</tbody>
</table>

Total: 341 546 33 40 85 128 109.5 122.5

<table>
<thead>
<tr>
<th>Pair (CG)</th>
<th>No. of C-Units (Pre)</th>
<th>No. of LREs (Pre)</th>
<th>No. of CD (Pre)</th>
<th>Draft Score (Pre)</th>
<th>No. of C-Units (Post)</th>
<th>No. of LREs (Post)</th>
<th>No. of CD (Post)</th>
<th>Draft Score (Post)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 M</td>
<td>46</td>
<td>6</td>
<td>13</td>
<td>15.5</td>
<td>59</td>
<td>6</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>N</td>
<td>33</td>
<td>12</td>
<td>13</td>
<td>13.5</td>
<td>38</td>
<td>16</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>8 O</td>
<td>56</td>
<td>7</td>
<td>5</td>
<td>19</td>
<td>73</td>
<td>9</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>P</td>
<td>47</td>
<td>7</td>
<td>5</td>
<td>19</td>
<td>68</td>
<td>14</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>9 Q</td>
<td>44</td>
<td>7</td>
<td>5</td>
<td>19</td>
<td>42</td>
<td>9</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>42</td>
<td>0</td>
<td>2</td>
<td>24</td>
<td>59</td>
<td>3</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>10 S</td>
<td>8</td>
<td>0</td>
<td>2</td>
<td>24</td>
<td>24</td>
<td>3</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>T</td>
<td>3</td>
<td>3</td>
<td>8</td>
<td>23.5</td>
<td>18</td>
<td>9</td>
<td>6</td>
<td>24.5</td>
</tr>
<tr>
<td>11 U</td>
<td>29</td>
<td>3</td>
<td>3</td>
<td>23.5</td>
<td>26</td>
<td>6</td>
<td>12</td>
<td>22.5</td>
</tr>
<tr>
<td>V</td>
<td>19</td>
<td>6</td>
<td>6</td>
<td>22.5</td>
<td>19</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>12 W</td>
<td>20</td>
<td>6</td>
<td>6</td>
<td>22.5</td>
<td>73</td>
<td>9</td>
<td>12</td>
<td>22.5</td>
</tr>
<tr>
<td>X</td>
<td>22</td>
<td>12</td>
<td>12</td>
<td>22.5</td>
<td>80</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Total: 369 579 34 42 92 115 118 119
Table 7

Descriptive Statistics of C-Units and t Values between Pre- and Posttests for TG and CG

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>12</td>
<td>28.42</td>
<td>17.30</td>
<td>3</td>
<td>53</td>
<td>-4.88**</td>
</tr>
<tr>
<td>Posttest</td>
<td>12</td>
<td>45.50</td>
<td>21.80</td>
<td>11</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td><strong>CG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>12</td>
<td>30.75</td>
<td>16.68</td>
<td>3</td>
<td>56</td>
<td>-3.10*</td>
</tr>
<tr>
<td>Posttest</td>
<td>12</td>
<td>48.25</td>
<td>23.07</td>
<td>18</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05. **p < .001.
<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG</td>
<td>12</td>
<td>17.1</td>
<td>12.15</td>
<td>-.16</td>
</tr>
<tr>
<td>CG</td>
<td>12</td>
<td>17.5</td>
<td>19.22</td>
<td></td>
</tr>
</tbody>
</table>
Table 9

Descriptive Statistics of LREs and t Values between Pre- and Posttests for TG and CG

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>6</td>
<td>5.50</td>
<td>4.97</td>
<td>0</td>
<td>12</td>
<td>-1.78</td>
</tr>
<tr>
<td>Posttest</td>
<td>6</td>
<td>7.50</td>
<td>4.28</td>
<td>2</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>CG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>6</td>
<td>5.67</td>
<td>4.03</td>
<td>0</td>
<td>12</td>
<td>-1.66</td>
</tr>
<tr>
<td>Posttest</td>
<td>6</td>
<td>7.00</td>
<td>5.73</td>
<td>0</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>
## Table 10

**Changes in Frequency of LREs between TG and CG**

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG</td>
<td>6</td>
<td>2.00</td>
<td>2.76</td>
<td>.61</td>
</tr>
<tr>
<td>CG</td>
<td>6</td>
<td>1.33</td>
<td>1.97</td>
<td></td>
</tr>
</tbody>
</table>
Table 11

Descriptive Statistics of CD and t Values between Pre- and Posttests for TG and CG

<table>
<thead>
<tr>
<th>Test</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>12</td>
<td>7.08</td>
<td>3.80</td>
<td>1</td>
<td>14</td>
<td>-2.61*</td>
</tr>
<tr>
<td>Posttest</td>
<td>12</td>
<td>10.67</td>
<td>8.19</td>
<td>1</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>CG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>12</td>
<td>7.83</td>
<td>6.44</td>
<td>1</td>
<td>18</td>
<td>-1.21</td>
</tr>
<tr>
<td>Posttest</td>
<td>12</td>
<td>9.58</td>
<td>6.27</td>
<td>1</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05.
Table 12

Changes in Frequency of CD between TG and CG

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG</td>
<td>12</td>
<td>3.58</td>
<td>4.81</td>
<td>1.30</td>
</tr>
<tr>
<td>CG</td>
<td>12</td>
<td>1.75</td>
<td>5.55</td>
<td></td>
</tr>
</tbody>
</table>
Table 13

Final Draft Scores for Pre- and Posttests

<table>
<thead>
<tr>
<th>Pair No.</th>
<th>Treatment Group</th>
<th>Comparison Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Content</td>
<td>5 3 4 2 4 4 5 4 5 5 5 5</td>
</tr>
<tr>
<td></td>
<td>Organization</td>
<td>5 3 4 2 3 5 5 2 5 3 4 5 5 5</td>
</tr>
<tr>
<td></td>
<td>Vocabulary</td>
<td>4 2.5 4 2 3.5 4.5 3 2.5 4 5 4.5 4 4</td>
</tr>
<tr>
<td></td>
<td>Morphology</td>
<td>4 2.5 3.5 3 4 4 3 2 4 4 4 4</td>
</tr>
<tr>
<td></td>
<td>Syntax</td>
<td>4.5 2.5 4 3 4 5 4 3 3 5 5 4.5</td>
</tr>
<tr>
<td>Total:</td>
<td>22.5 13.5 19.5 12 19 23 15.5 13.5 19 24 23.5 22.5</td>
<td></td>
</tr>
<tr>
<td>No. of c-units (Max. = 11)</td>
<td>11 10 10 4 8 10 9 9 11 11 11 11</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pair No.</th>
<th>Treatment Group</th>
<th>Comparison Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Posttest</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Content</td>
<td>5 3 4 5 3 5 4 3 5 5 5 4.5</td>
</tr>
<tr>
<td></td>
<td>Organization</td>
<td>5 3 3.5 5 3 5 4 3 2 5 5 5 5</td>
</tr>
<tr>
<td></td>
<td>Vocabulary</td>
<td>4 3 4 4.5 3 5 4 2.5 3 5 5 4</td>
</tr>
<tr>
<td></td>
<td>Morphology</td>
<td>4 3.5 5 4.5 2.5 5 3.5 2.5 3 4 4.5 4</td>
</tr>
<tr>
<td></td>
<td>Syntax</td>
<td>4.5 3.5 5 4.5 2.5 5 4.5 3 3 5 5 5</td>
</tr>
<tr>
<td>Total:</td>
<td>22.5 16 21.5 23.5 14 23 20 14 14 24 24.5 22.5</td>
<td></td>
</tr>
<tr>
<td>No. of c-units (Max. = 15)</td>
<td>15 12 13 15 11 15 14 8 9 14 15 15</td>
<td></td>
</tr>
</tbody>
</table>

Note. 5-point scale with 1 representing very poor performance and 5 representing excellent performance (See Appendix J for more details). ¹Average of three raters' ratings (never more than 1 point apart).
Table 14

Difference in Draft Scores and C-Units between Pre- and Posttests for TG and CG

<table>
<thead>
<tr>
<th>Group</th>
<th>Test</th>
<th>Draft Score</th>
<th>C-Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG</td>
<td>Pretest</td>
<td>109.5</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>122.5</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>13</td>
<td>28</td>
</tr>
<tr>
<td>CG</td>
<td>Pretest</td>
<td>118</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>119</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Difference</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Name</td>
<td>Score</td>
<td>Date</td>
<td>Note</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>A</td>
<td>90</td>
<td>12/15</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>85</td>
<td>11/20</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>92</td>
<td>12/25</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>78</td>
<td>12/10</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>88</td>
<td>12/30</td>
<td></td>
</tr>
</tbody>
</table>
Table 15

**Descriptive Statistics of Final Draft Scores for Pre- and Posttests**

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>6</td>
<td>18.25</td>
<td>4.57</td>
<td>12</td>
<td>23</td>
<td>-.991</td>
</tr>
<tr>
<td>Posttest</td>
<td>6</td>
<td>20.42</td>
<td>4.40</td>
<td>14</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td><strong>CG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>6</td>
<td>19.67</td>
<td>4.41</td>
<td>13.5</td>
<td>24</td>
<td>-.134</td>
</tr>
<tr>
<td>Posttest</td>
<td>6</td>
<td>19.83</td>
<td>4.78</td>
<td>14</td>
<td>24.5</td>
<td></td>
</tr>
</tbody>
</table>
Table 16

Changes in Final Draft Scores between TG and CG

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>TG</td>
<td>6</td>
<td>2.17</td>
<td>5.35</td>
<td>.736</td>
</tr>
<tr>
<td>CG</td>
<td>6</td>
<td>0.17</td>
<td>3.04</td>
<td></td>
</tr>
</tbody>
</table>
Table 17

**Ranking of Preference on Choosing Partner, Difficulty of Pair Work, and Preference of Learning Style**

**Ranking of Preference on Choosing Partner**
Q11. If I have a choice, next time I prefer to work with,

<table>
<thead>
<tr>
<th></th>
<th>Treatment</th>
<th></th>
<th></th>
<th>Comparison</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>a)</td>
<td>a partner I choose.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td>a partner the teacher chooses.</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>c)</td>
<td>a partner who shares my cultural background.</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Ranking of Difficulty of Pair Work**
Q12. When I worked in pairs,

<table>
<thead>
<tr>
<th></th>
<th>Treatment</th>
<th></th>
<th></th>
<th>Comparison</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>a)</td>
<td>sharing the same quantity of work was very difficult.</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td>sharing the same quality of work was very difficult.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>c)</td>
<td>accommodating differences in personalities or attitudes was very difficult.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Ranking of Preference of group formation for classroom activities**
Q13. I like

<table>
<thead>
<tr>
<th></th>
<th>Treatment</th>
<th></th>
<th></th>
<th>Comparison</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>a)</td>
<td>whole class discussions.</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td>small group work (about 3 – 4 people).</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>c)</td>
<td>Working in pairs.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>d)</td>
<td>Working alone.</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>e)</td>
<td>Listening to a lecture by a teacher.</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** Arabic numerals express the ranking. 1: the most favourable; 2: the second favourable; 3: the third favourable; 4: the fourth favourable; 5: the fifth favourable.
Table 18

Learner’s Response to the Questions in Part II

1) Do/Did you plan to work in pairs to accomplish assignments?

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>(22)</td>
<td>(22)</td>
</tr>
<tr>
<td>Yes</td>
<td>68</td>
</tr>
<tr>
<td>No</td>
<td>32</td>
</tr>
</tbody>
</table>

2) How much do/did you work with your partner outside of class per week?

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>(22)</td>
<td>(22)</td>
</tr>
<tr>
<td>a) more than 1 hour</td>
<td>19</td>
</tr>
<tr>
<td>b) 0.5 – 1 hour</td>
<td>38</td>
</tr>
<tr>
<td>c) less than 0.5 hour</td>
<td>14</td>
</tr>
<tr>
<td>d) 0</td>
<td>29</td>
</tr>
</tbody>
</table>

Note. The values represent percentages of learners’ response. The Arabic numerals in brackets indicate the total number of learners’ responses.
Table 19

Comments on Pair Work from 45 Students

Prequestionnaire/Positive

**CG**
- Language learning needs us to practice; therefore, pair work is very important.
- Can be learning together and improve together.
- We can help each other
- Whenever having problems in learning, we can learn or understand more through discussion.
- More ideas
- Combine 2 different ideas to a better one, and more perspectives.
- We can point out mistakes and feel more comfortable.
- Share the knowledge.
- Finish work faster.
- Can share work.
- (in pairs) sometimes I don’t need to do the huge quantity of work, also, more good ideas coming out.
- Share information or experiments.
- Practise with partner is more comfortable than teacher.
- We can correct mistakes to each other.
- Sometimes you know different things and can help each other out and correct mistakes.

**TG**
- It is fun.
- More efficiency.
- Partners might understand the things that I don’t understand.
- Learn from the partner.
- It’s good to get someone else’s ideas about things.
- You can discuss and problem solve without having a teacher or TA available.
- Pair work is beneficial when the two people are at the same learning level, and want the same things out of the pair work.
- Discuss the work together.
- Sometimes when you get something wrong, your partner can correct you, if s/he is good in it.
- Your partner can push you to work also can solve problems together.
- Learning in pairs can provide the good study relationship with others.
- Learning in pairs can be very effective when done properly.
- Help to clarify mistake at a personal level, sometimes conversations reinforce what you study in class.
- If you learn with your friends, it’s comfortable rather than with teacher.
- Can learn more experiences in communicating and sharing the workload.
- We can teach each other when we make mistake.

*(table continues)*
Postquestionnaire/Positive

CG
- Working in pairs always helps when both people are willing to learn.
- Can learn something from partner.
- Share workload.
- I’ll speak up more when working in pairs.
- Good communication with my partners.
- We can finish our work more quickly.
- More opportunity to practise Japanese.
- Easy to memorize vocabulary and sentence.
- Shared comments & work faster.
- We can share comments
- Is easy to understand each other’s need, and is more fun than working with teacher.
- If I choose my partner, I can work better.
- You have to speak a language to learn it, so it helps to speak with a partner.
- Get ideas quickly.
- Get more ideas and each one can consider and care about different parts.

TG
- I learned faster in pairs.
- Makes learning vocabulary fun, instead of just memorizing.
- Have more fun.
- Learn from each other.
- The partner might know the stuff that I don’t know.
- Memorizing Japanese words was easier that I work with partner rather than alone.
- Makes learning easier and more fun, and can push each other to do things/learning.
- May have different ideas.
- Learned good habits, and tricks in study.
- Know a friend better.
- It is very interesting to learn in pairs in the reading and skits. It think it actually helps me to improve my spoken Japanese.
- Pairs can help each other if one of them has questions.
- We can learn with each other for improving our Japanese.
- We can make more ideas for our oral skit, then make it funnier one.
- We can share the knowledge and keep each other doing the job.
- Share same quantity and quality of work.
- Allows for constructive feedback, and helps improve confidence in speaking Japanese.
- Can have better communication with partner, and better idea is coming out.
- Can share ideas and better ideas come out.
- Easier to remember the materials.

(table continues)
Prequestionnaire/Negative

**CG**
- One may rely on another to finish the homework.
- It will be no use if only one just working.
- Make it carry away off topic.
- Time consuming.
- Too many different ideas.
- Too many different ideas. It really depends on who the partner is.
- Different agreement.
- Copying.
- The other one, don’t do anything, or always absent.
- Always absent.
- It is really difficult to share the same quantity and quality of work.
- We may have different ideas to argue.
- Quite often, partners are very unevenly matched, and one can bring the other down. One partner can frequently end up doing almost all of the work while the other still gets full credit for it.

**TG**
- It is a little bit waste of time, because we spend time to arrange the meeting.
- Difficult to schedule the time to do the group work.
- When a partner is assigned, they may not be suitable in terms of the amount of work they will do.
- When the previous knowledge is not at the same level (can be different knowledge, but not good when one person ends up always teaching the other)…becomes a “tutoring session” rather than pair work.
- Hard to meet when we both don’t have the same spare time.
- Time conflict; different faculty back ground.
- If your partner is lazy or have a bad attitude, it is very hardly work together.
- May be have some conflict coming out, when both have different ideas.
- Sometimes working with pairs causes distractions and less learning.
- Partner attitude is a big problem in study.
- May be we have some arguments according to different ideas, and then it delays and being bad effect on our works.
- It is very difficult to find a appropriate time to work together.
- We may also get wrong answer. If I pair a bad partner, then we may have argument.

*(table continues)*
Postquestionnaire/Negative

CG
- If both don’t want to work in pairs, it will hurt their works.
- Sometimes rely on partner too much.
- Too much assignments.
- Time consuming.
- If the partner is chosen by teacher, we may not work well together.
- It’s hard to find a partner of the same level.
- Too many good ideas.
- Sometimes the partner will have different opinions. That would have conflicts between each other.

TG
- When a partner is assigned, sometimes the division of work is unequal. When you choose your own partner, you are able to pick someone that will work with you well.
- Difficult to share same amount of work.
- May have wrong feedback.
- Hard to share the same quantity of work.
- Hard to get together when only see each other in one class.
- Doing not the same amount of work – not fair.
- Be late when meeting; some partner won’t do their work.
- Sometimes it’s difficult to get together with each other if one of them is busy.
- Maybe, not good communication.
- We may need more time to confirm our answer.
- If both have the different attitude, it’s very hard to work together.
- Some conflicts with different idea.
- Different idea & have conflict.
- It’s hard to learn Japanese if the partner is not the same culture background as mine.
Table 20

Comments on Pair Work from 24 Students

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice</td>
<td></td>
</tr>
<tr>
<td>• more fun</td>
<td>• off topic</td>
</tr>
<tr>
<td>• good practice for spoken language</td>
<td>• picking up bad accent or pronunciation</td>
</tr>
<tr>
<td>• more comfortable to practice language with peers than with the instructor</td>
<td></td>
</tr>
<tr>
<td>• improving together by pushing each other</td>
<td></td>
</tr>
<tr>
<td>• memorize words faster</td>
<td></td>
</tr>
<tr>
<td>Notice (by feedback)</td>
<td></td>
</tr>
<tr>
<td>• correcting each other’s mistakes</td>
<td>• getting wrong answer from partner</td>
</tr>
<tr>
<td>• more comfortable to get feedback from a partner than from the instructor</td>
<td></td>
</tr>
<tr>
<td>Analysis</td>
<td></td>
</tr>
<tr>
<td>• sharing information</td>
<td>• having argument</td>
</tr>
<tr>
<td>• more ideas</td>
<td>• time consuming</td>
</tr>
<tr>
<td>• better understanding of the topic through discussion</td>
<td></td>
</tr>
<tr>
<td>• learning faster</td>
<td></td>
</tr>
<tr>
<td>Problem Solving</td>
<td></td>
</tr>
<tr>
<td>• solving problems quicker than alone</td>
<td>• conflicts with different ideas</td>
</tr>
<tr>
<td>• partner can push to solve problem</td>
<td>• different agreement</td>
</tr>
<tr>
<td>• solving problems without the instructor</td>
<td>• bad effects on work with delay</td>
</tr>
<tr>
<td>Groupings</td>
<td>• distractions and less learning</td>
</tr>
<tr>
<td>• providing a good relationship with others</td>
<td>• relying on partner too much</td>
</tr>
<tr>
<td>• sharing work load</td>
<td>• ending up with “tutoring session”</td>
</tr>
<tr>
<td>• difficult to find a partner to have a good relationship</td>
<td></td>
</tr>
<tr>
<td>• hard to work together if the partner is lazy and have a bad attitude</td>
<td></td>
</tr>
<tr>
<td>• unevenly matched partner causing to bring the other down</td>
<td></td>
</tr>
<tr>
<td>• copying</td>
<td></td>
</tr>
</tbody>
</table>
Table 21

Balance of No. of C-units and CD in Pairs

<table>
<thead>
<tr>
<th>Pair</th>
<th>No. of c-units</th>
<th>No. of CD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Difference</td>
</tr>
<tr>
<td>(TG)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 A</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2 C</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>3 E</td>
<td>28</td>
<td>4</td>
</tr>
<tr>
<td>F</td>
<td>32</td>
<td>4</td>
</tr>
<tr>
<td>4 G</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td>H</td>
<td>39</td>
<td>20</td>
</tr>
<tr>
<td>5 I</td>
<td>42</td>
<td>3</td>
</tr>
<tr>
<td>J</td>
<td>45</td>
<td>3</td>
</tr>
<tr>
<td>6 K</td>
<td>53</td>
<td>5</td>
</tr>
<tr>
<td>L</td>
<td>48</td>
<td>5</td>
</tr>
<tr>
<td>Total: 341</td>
<td>39</td>
<td>546</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pair</th>
<th>No. of c-units</th>
<th>No. of CD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Difference</td>
</tr>
<tr>
<td>(CG)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 M</td>
<td>46</td>
<td>13</td>
</tr>
<tr>
<td>N</td>
<td>33</td>
<td>13</td>
</tr>
<tr>
<td>8 O</td>
<td>56</td>
<td>9</td>
</tr>
<tr>
<td>P</td>
<td>47</td>
<td>9</td>
</tr>
<tr>
<td>9 Q</td>
<td>44</td>
<td>2</td>
</tr>
<tr>
<td>R</td>
<td>42</td>
<td>2</td>
</tr>
<tr>
<td>10 S</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>T</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>11 U</td>
<td>29</td>
<td>10</td>
</tr>
<tr>
<td>V</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>12 W</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>X</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>Total: 369</td>
<td>42</td>
<td>579</td>
</tr>
</tbody>
</table>
Figure 3

Learners’ Attitudes, Beliefs, and Preferences on Pair Work

Statement 1: Two people can make better decisions than an individual.

Statement 2: Practising speaking Japanese with my partner is more comfortable than practicing with my teacher.
Statement 3: I can solve problems more quickly alone than with my partner.

Statement 4: I prefer to practise speaking Japanese with my teacher rather than my partner, because the teacher's feedback is more helpful.
Statement 5. Memorizing Japanese words is easier if I practise with a partner rather than alone.

Statement 6: I like the idea of working with the same partner for the whole term.
Statement 7: Working with a partner will lead to a better grade than working alone.

Statement 8: I like to change partners every time I work in pairs.
Statement 9: Working with a partner helps me improve my Japanese.

Statement 10: The teacher can provide much more useful comments on my work than other students in my class.
Learner’s Response to the Questions in Part II

1) Do/Did you plan to work in pairs to accomplish assignments?

<table>
<thead>
<tr>
<th></th>
<th>Prequestionnaire</th>
<th>Postquestionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>68%</td>
<td>59%</td>
</tr>
<tr>
<td>No</td>
<td>32%</td>
<td>41%</td>
</tr>
<tr>
<td>Comparison Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>88%</td>
<td>84%</td>
</tr>
<tr>
<td>No</td>
<td>12%</td>
<td>16%</td>
</tr>
</tbody>
</table>
2) How much do/did you work with your partner outside of class per week?

Prequestionnaire

Treatment Group
- 29% 0 hour
- 19% more than 1 hour
- 14% less than 0.5 hour
- 38% 0.5~1 hour

Comparison Group
- 18% 0 hour
- 12% more than 1 hour
- 35% less than 0.5 hour
- 35% 0.5~1 hour

Postquestionnaire

Treatment Group
- 9% 0 hour
- 14% more than 1 hour
- 32% less than 0.5 hour
- 45% 0.5~1 hour

Comparison Group
- 10% 0 hour
- 14% more than 1 hour
- 37% less than 0.5 hour
- 53% 0.5~1 hour