THE IMPACT ON CRITICAL THINKING OF THE USE OF L1 AND L2 IN PEER FEEDBACK

A Master's Thesis

by

DİDEM DAĞKIRAN

The Department of
Teaching English as a Foreign Language
Bilkent University
Ankara

May 2010

THE IMPACT ON CRITICAL THINKING OF THE USE OF L1 AND L2 IN PEER FEEDBACK

The Graduate School of Education
of
Bilkent University

by

DİDEM DAĞKIRAN

In Partial Fulfillment of the Requirements for the Degree of
Master of Arts

in

The Department of
Teaching English as a Foreign Language
Bilkent University
Ankara

May 2010

BILKENT UNIVERSITY

GRADUATE SCHOOL OF EDUCATION

MA THESIS EXAMINATION RESULT FORM

May 28, 2010

The examining committee appointed by The Graduate School of Education for the thesis examination of the MA TEFL student

Didem Dağkıran

has read the thesis of the student.

The committee has decided that the thesis of the student is satisfactory.

Thesis Title:	The Impact on Critical Thinking of the Use of L1 and L2 in Peer Feedback
Thesis Advisor:	Asst. Prof. Dr. Phillip Durrant Bilkent University, MA TEFL Program
Committee Members:	Asst. Prof. Dr. Julie Mathews-Aydınlı Bilkent University, MA TEFL Program
	Asst. Prof. Dr. Valerie Kennedy Bilkent University, English Language and Literature Department

I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Teaching English as a Second Language.

_____
Asst. Prof. Dr. Phillip Durrant
Supervisor

I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Teaching English as a Second Language.

_____
(Asst. Prof. Dr. Julie Mathews-Aydınlı)
Examining Committee Member

I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Teaching English as a Second Language.

_____
(Asst. Prof. Dr. Valerie Kennedy)
Examining Committee Member

Approval of the Graduate School of Education

_____
(Visiting Prof. Dr. Margaret Sands)
Director

ABSTRACT

THE IMPACT ON CRITICAL THINKING
OF THE USE OF L1 AND L2
IN
PEER FEEDBACK

Didem Dağkıran

MA., Department of Teaching English as a Foreign Language
Supervisor: Asst. Prof. Dr. Phillip Durrant

May 2010

This study investigated (a) quantitative and (b) qualitative differences between the critical thinking displayed in L1 and L2 in peer feedback discussions of Turkish EFL (English as a Foreign Language) students. High-proficiency EFL learners participated in the study on a voluntary basis after a critical thinking test. With eight high-scorer students of the test, two groups were formed with four students in each group. These students had previously taken advanced writing courses and practiced peer feedback in these courses. Still, they were given a simple feedback guide sheet and training. The participants were asked to write two argumentative essays on two different topics one week before the discussion meeting. Focusing on those essays, each group had feedback discussions in L1 (Turkish) and L2 (English), in different orders. The researcher made no interventions. The discussions were audio- and video-recorded, and transcribed for a

detailed analysis. The transcriptions were coded according to a critical thinking framework that was prepared by the researcher by adapting and combining items from previously used frameworks. The findings were analyzed for the quantitative and qualitative differences between the critical thinking expressed in the two languages.

The data analysis showed that critical thinking was displayed significantly more in the L1. This finding, however, is affected by the fact that participants' total amount of talk in L1 was also more than L2 talk, therefore the quantitative difference appears to have caused by the surplus amount of total talk in the L1. The study also revealed that there were qualitative differences between the languages that critical thinking was displayed. It was speculated that the qualitative differences resulted from the ease of using the native language as well as the safety provided by the pragmatic knowledge that made communication and interaction clearer in the L1. Suggestions were made for further support to students to express their thoughts in spoken L2 more effectively, which could include more practice on giving effective peer feedback, focusing on the necessary discourse and pragmatic skills, and providing students with other discussion tasks and subject matters that invites critical thinking.

Keywords: Critical thinking, peer feedback, L1 and L2, writing, language differences.

ÖZET

ÇALIŞMA ARKADAŞI GERİ BİLDİRİMİNDE BİRİNCİ VE İKİNCİ DİL KULLANIMININ ELEŞTİREL DÜŞÜNME ÜZERİNE ETKİSİ

Didem Dağkıran

Yüksek lisans, Yabancı Dil Olarak İngilizce Öğretimi Bölümü
Tez Yöneticisi: Yard. Doç. Dr. Phillip Durrant

Mayıs 2010

Bu çalışmada yabancı dil olarak İngilizce öğrencilerinin çalışma arkadaşı geri bildirimi tartışmalarında, eleştirel düşünmenin birinci ve ikinci dilde yansıtılması arasında (a) niceliksel ve (b) niteliksel farklar araştırıldı. Bir eleştirel düşünme testinden yüksek not alan yüksek dil seviyesindeki öğrenciler çalışmaya gönüllü olarak katıldı. Testten yüksek not alan sekiz öğrenci ile dört kişilik iki grup oluşturuldu. Bu öğrenciler daha önceden yüksek seviye yazma dersi almıştı ve bu derslerde çalışma arkadaşı geri bildirimi çalışması yapmışlardı. Yine de, basit bir çalışma arkadaşı yönergesi ve eğitimi verildi. Çalışmadan iki hafta önce, katılımcılardan iki farklı konuda tartışma içeren kompozisyon yazmaları istendi. Her grup farklı bir sıralama ile Türkçe (D1) ve İngilizce (D2) olarak geri bildirim tartışması yaptı. Araştırmacı tartışmalara müdahale etmedi. Tartışmaların ses ve görüntü kaydı yapıldı ve detaylı bir analiz için yazılı biçime çevrildi. Yazılı kopyalar araştırmacı tarafından daha önceki çalışmalarda kullanılan kapsamları uyarlayıp birleştirerek hazırlanan bir eleştirel düşünme çerçevesinde kodlandı. Bulgular iki dilde ifade edilen eleştirel düşünme arasındaki nicel ve nitel farklar açısından incelendi.

Veri analizi sonucunda eleştirel düşünmenin D1'de anlamlı derecede daha sık olduğu görüldü. Ancak bu bulgu katılımcıların toplam D1 konuşmalarının toplam D2

konuşmalarından da fazla miktarda olmasının etkisiyle ortaya çıktı, bu sebepten niceliksel farklılık D1'deki toplam konuşma miktarının fazlalığından kaynaklanıyor gibi görünmektedir. Ayrıca, bu çalışma eleştirel düşünmenin ifadesinde diller arasında niteliksel farklılıklar da olduğu sonucunu ortaya çıkardı. Nitel farlılıkların, ana dili kullanmanın verdiği rahatlıktan ve iletişim ve etkileşimi daha net kılan D1 pragmatik bilgisinin sağladığı güvenden kaynaklandığı tahmininde bulunuldu. Öğrencilere düşüncelerini D2'de daha etkili ifade edebilmeleri için daha çok destek verilmesi yününde önerilerde bulunuldu. Bunlar, etkili çalışma arkadaşı geri bildirimi üzerine daha çok pratik yapma, gerekli söylem ve pragmatik beceriler üzerine odaklanma, ve öğrencilere eleştirel düşünmeyi teşvik eden diğer tartışma ödevleri ve konuları sağlamayı içermektedir.

Anahtar kelimeler: Eleştirel düşünme, Çalışma arkadaşı geri bildirimi, Birinci Dil (D1) ve İkinci Dil (D2, yazma, Diller arasındaki farklar.

ACKNOWLEDGEMENTS

First of all, I would like to express my sincere appreciation to my thesis advisor Assist. Prof. Phillip Durrant, who has guided me and provided academic help through the process of writing this thesis.

I would also like to express my deepest gratitude to Asst. Prof. Dr. Julie Mathews-Aydınlı, the Director of MA TEFL program, and Assist. Prof. Dr. JoDee Walters for their assistance and support in this program all through the year. Without their efforts and genuine kindness, this program would be very difficult to handle.

I owe my thanks to the director and co-director of Anadolu University, the School of Foreign Languages, Prof. Dr. Handan Yavuz and Dr. Aysel Bahçe, for giving me permission to attend the MA TEFL program. I would also like to thank my colleagues, Özlem Kaya, Figen Tezdiker, Nilüfer Özgür, Müge Kanatlar, Kadir Özsoy, Erkin Özdemir and especially İpek Kuru Gönen for their invaluable support and encouragement.

I also would like to express my sincere gratitude to my friend Dilek Melike Taner for her invaluable help and support, warm friendship and strong encouragement.

I wish to thank all my friends on the MA TEFL program for their invaluable friendship and encouragement during the writing process of this thesis.

I would especially like to thank Güçlü Ongun who has supported me all through the program with invaluable encouragement, love, and patience. His presence has made it possible for me to complete this study.

Finally, I would like to thank to my family, Kezban, Rahmi, Utku, Rasheedah Mullings, and Deniz Dağkıran, and Şükran Şankazan and for their love, support, and

patience. I dedicate this work to my nephew Atlas Mullings Dağkıran who has opened his eyes to life in the middle of the writing process of this thesis, bringing light.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES

CHAPTER 1 - INTRODUCTION

Introduction

In this age of immense sources of information and media for communication, people are vulnerable to manipulation by various kinds of ideologies unless they have the skills necessary for critical thinking. Also, mere intake of information without processing it so as to make it useful to understand and connect with other related ideas, and to judge the value of the outcome, would create a person perhaps full of information, but not useful knowledge. These concerns are not new and it has been suggested for over a hundred years that critical thinking be taught during the educational process.

Cooperative learning has been proposed as an efficient way of enhancing critical thinking skills in language teaching classes. Peer feedback discussions, commonly used in cooperative learning classrooms, are a good environment for the practice of critical thinking skills. However, in the literature, the choice of language during such discussions has received little attention, as has the issue of whether critical thinking skills are transferable between L1 and L2.

In this study, the researcher will analyze the use of L1 and L2 in peer feedback discussions in writing courses. The purpose of this study is to investigate whether there are qualitative or quantitative differences in the critical thinking expressed in these discussions when they are conducted in L1 or L2.

Background of the study

Critical thinking has been a popular issue among researchers for some decades, perhaps because of the increasing need for it. However, it is neither a new practice nor a new matter for discussion. In fact, its history goes as far back as the time of Socrates (500 BC), who insisted on asking questions to find evidence, clarity, and logical consistency instead of accepting given information as true knowledge (Paul & Elder, 2001). His way of inquiry to knowledge, known as Socratic Questioning, is the first known method of critical thinking. He was followed by many philosophers and theorists, such as Aristotle, Erasmus, Bacon, Descartes, Locke, Sumner, Dewey, and Piaget, who all contributed to the establishment of a history of discussions about the nature and importance of critical thinking (Paul & Elder, 2001).

Being a somewhat abstract and broad term, critical thinking has been defined many times. Dewey defines reflective thinking, a term that is used interchangeably with critical thinking, as "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends" (Dewey, 1910, p. 6). Another definition is by Ennis, who defines it as "reflective and reasonable thinking that is focused on deciding what to believe or do" (1985, cited in Kurfiss, 1988, p. 8). Among the contemporary definitions, Chaffee states that thinking critically is "making sense of the world by carefully examining the thinking process to clarify and improve our understanding" (Chaffee, 2000, p. 45). Another recent definition is by Paul and Elder. They define critical thinking as "a mode of thinking -about any subject, content, or problem- in which the thinker improves the quality of his or her thinking

by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them" (2001, p. xx). All these definitions emphasize that critical thinking is more than just thinking, it is a controlled and educated way of thinking.

In the literature, subtypes of critical thinking have been specified to clarify its constituents. Reichenbach states that "critical thinking involves using a cluster or group of interconnected skills to analyze, creatively work with, and evaluate what you read and hear so that you can decide whether or not to believe something or to take a specific action" (2001, p. 13). He further points out that critical thinking involves reasoning, reflection and being practical (2001, p. 18). Paul and Elder state that "thinking, to be critical,… must be analyzed and assessed for its clarity, accuracy, relevance, depth, breadth, and logicalness" (2001, p. 379). All these characteristics point to the fact that critical thinking is a conscious attempt to process the received information and move on to search for better ways of constructing and expressing thoughts, ideas, and knowledge.

To pursue a satisfactory and productive life, having such characteristics in the way we think is necessary, and therefore the teaching of skills that are needed to practice critical thinking in educational systems has been a matter of discussion since the early 1900s. Dewey was perhaps the most steadfast figure to point out the importance of teaching critical thinking in educational systems by emphasizing that teaching knowledge was a target for education, but that the use of knowledge in thinking was more valuable than knowledge itself (Dewey, 1944, p. 151). Sumner was another early defender of critical thinking in education, having stated that "education in the critical faculty is the only education of which it can be truly said

that it makes good citizens" (Sumner, 1906, p. 633). Bloom is another important and well known figure who addresses critical thinking skills such as analyzing, synthesizing, and evaluating as goals in his educational taxonomy (Bloom, 1956). Paul, an ardent contemporary advocate of the implementation of critical thinking in education, emphasizes the need for thinking minds for a free society (Paul, 1993, p. 353). Today, critical thinking is acknowledged by many institutions as one of their teaching goals, now that it is accepted as a skill that is teachable (Reichenbach, 2001; Sternberg, Roediger III, & Halpern, 2007).

Cooperative learning, which is a learner-centered approach closely related to communicative, experiential, and collaborative learning, is proposed as an efficient way to enhance critical thinking (Nunan, 1993; Paul, 1993; Reichenbach, 2001). Kohonen defines cooperative learning as situations in which "learners work together to accomplish shared goals" (1993, p. 33). Olsen & Kagan give a more detailed definition of cooperative learning as:

> group learning activity so that learning is dependent on the socially structured exchange of information between learners in groups and in which each learner is held accountable for his or her own learning and is motivated to increase the learning of others. (as cited in Oxford, 1997, p. 443)

This shift from traditional learning conditions, in which students are passive receivers of given information, towards a learning process in which students are actively involved in the construction of knowledge together creates many opportunities for learners. Kohonen points out that in well structured cooperative teams, an effective context is provided for learners to develop new understandings and to engage in cognitive elaboration (1993, pp. 34-35). Confrontation with different solutions and points of views, opportunity to benefit from the knowledge of

group members, verbalization of thoughts, which helps cognitive reorganization, an intensified learning process, and application of different levels of cognition are listed as factors that are involved in cooperative learning (Terwel, 2003, p. 59).

Cooperative learning has positive results not only on learners' levels of achievement, anxiety, self-confidence, and motivation (Bejarano, 1987; Crandall, 1999; Dornyei, 1997; Ghaith, 2003; Oxford, 1997; Slavin, 1983; Slavin, 1995), but also on improving their critical thinking skills (Johnson, Johnson, & Holubec, 1995a; Oxford, 1997). Johnson, et al. (1995a) state that "the interpersonal exchanges promote the use of higher level thinking strategies, higher-level reasoning, and metacognitive strategies" (p.54). Moreover, some studies that indicate that cooperative learning has benefits for critical thinking skills support this remark. (see e.g. Ertmer et al., 2007; Gokhale, 1995; Klimoviene, Urboniene, & Barzdziukiene, 2006).

Peer feedback, which is a cooperative learning activity, is used especially in writing courses in the language teaching context. Because writing demands not only language use but also thinking skills such as generating, clarifying, organizing, classifying and exemplifying ideas in a logical way, as well as "rearrang[ing] and consciously manipulate[ing] the information stored in their [the students'] memories" (Goldberg, 1983), enhancing critical thinking skills has an important place in writing courses, and peer feedback is considered to be suitable to serve this goal (Johnson, et al., 1995a).

The suggested language to be used during peer feedback sessions in language teaching is generally the target language, as it provides learners with opportunities for meaningful use of the L2. However, there are also benefits of using the L1 in

language classes. It is suggested that L1 be used, for example, to "check comprehension, to develop ideas as a precursor to expressing them in the L2, to reduce inhibitions or affective blocks to L2 production, and [during] cooperation among learners" (Atkinson, 1987; Collingham, 1988, as cited in Kanatlar, 2005). Furthermore, there are some studies that show the L1 has positive roles in generating and organizing ideas, and comprehension (Carson, Carrell, Silberstein, Kroll, & Kuehn, 1990; Wang & Wen, 2002). In addition, studies that deal with the use of L1 and L2 in peer feedback in writing courses have shown that when the L1 was used, the focus was basically on errors of language, while when the L2 was used, the focus shifted towards content and the organization of ideas, which are related more to higher order cognitive processes. On the other hand, the L2 comments were found less qualified and specific because of including a lot of general statements such as "I think this paragraph is good", hence less useful than the L1 comments. That is, although the comments were more language related in the L1, they were found to be more to the point and useful than the L2 comments (Huang, 1996; see also Wang & Wen, 2002). Given these findings, whether the L1 can be used in peer feedback discussions, especially when the feedback sessions are aimed at enhancing students' thinking skills, seems to be a reasonable question.

Critical thinking has been defined by many authors as a transferable skill (Anderson, Howe, Soden, Halliday, & Low, 2001; Baron, 1990; Fisher, 2001; Sternberg, et al., 2007). Also, being a skill, critical thinking can be improved through practice (Anderson, et al., 2001; Reichenbach, 2001; Sternberg, et al., 2007). Therefore, practicing critical thinking in L1 may have positive effects on the use of these skills in L2. However, to the knowledge of this researcher, there is no study

investigating the differences in the use of critical thinking in L1 and L2 during peer feedback sessions in an EFL context, which would provide information about whether L1 or L2 generates qualitatively and quantitatively more critical thinking.

Statement of the Problem

The importance of critical thinking in education has been emphasized by many authors (Bloom, 1956; Dewey, 1910; Paul, 1993; Reichenbach, 2001), and today in many universities in Turkey, improving students' critical thinking skills is a goal, which, if achieved, would have positive effects on not only their academic achievements but also other areas of their lives. Anadolu University School of Foreign Languages (AUSFL) also aims to help students sharpen and demonstrate their critical thinking skills, and in the curriculum of AUSFL, peer feedback is suggested as a means of fostering critical thinking. However, there seem to be problems in achieving this goal. Many teachers complain about the level of their students' critical thinking skills, and it is possible to see the difficulties students experience, especially in writing and speaking courses that require them to think critically. Although the question of whether this is more likely caused by the students' lack of proficiency in using the L2 or by their level of critical thinking in general has not been answered in a study, most teachers complain that the problem is basically related to the latter. According to a study conducted at Bilkent University (İrfaner, 2002), on the other hand, when attempting to teach critical thinking skills, most teachers found students' level of proficiency to be a barrier. According to another study conducted at AUSFL (Özgür, 2007), teachers' choice of activities and the questions they ask were not directed at teaching critical thinking skills. There seems to be a need, therefore, for an efficient use of a supportive method to teach

critical thinking skills in the EFL context, which may well be peer feedback discussions. Based on İrfaner's study, the researcher assumes that the language used in peer sessions may have a crucial effect on the success of such activities to enhance critical thinking skills. Therefore, the difference in critical thinking displayed in the native and the target language is thought to be worth examining.

There have been studies that show that peer feedback has positive effects on enhancing critical thinking skills (Anderson, et al., 2001; Gokhale, 1995; Guiller, Durndell, & Ross, 2008; Kern, Saraiva, & Pacheco, 2003; Plath, English, Connors, & Beveridge, 1999). Most of these studies have been conducted by examining the use of critical thinking skills in L1, and there has also been at least one study about enhancing critical thinking through peer feedback in English Language Teaching classes in L2 (Klimoviene, et al., 2006). There has also been a study conducted on the difference in the use of L1 and L2 in peer discussions (Huang, 1996a); however, the study is rather too general to give detailed information about the differences in the disposition of thinking skills. To the knowledge of this researcher, no study has investigated the qualitative and quantitative differences between the use of L1 and L2 in peer response sessions with regard to the extent of critical thinking displayed. This study therefore aims to investigate the differences between the use of L1 and L2 in peer feedback, and to explore the implications of language choice in peer feedback sessions on students' ability to effectively practice and display critical thinking skills.

Research questions

This study addresses the following research questions:

1. Is there a quantitative difference between the critical thinking displayed in the L1 and the L2 during peer feedback discussions by Turkish university EFL students?
2. Is there a qualitative difference between the critical thinking displayed in the L1 and the L2 during peer feedback discussions by Turkish university EFL students?

Significance of the study

To the knowledge of this researcher, no research study has dealt with the effects of language use in peer sessions on critical thinking. Therefore it is believed that this study, by providing information about the differences in the use of L1 and L2 in peer feedback sessions, may reveal implications about language preference in such sessions to enhance critical thinking skills in the EFL context. In addition, as there is a limited number of research studies in the EFL area about the relationship between peer feedback and critical thinking, this study may provide additional information regarding the existence, extent and quality of critical thinking in peer feedback discussions in a second language.

Being a skill, critical thinking can be improved by practice (Reichenbach, 2001), and as thinking skills are transferable between L1 and L2 (Cummins, 1991; cited in Liang & Mohan, 2003), use of L1 in peer sessions might make the learning process easier and hence more effective on the part of the learners. However, no study has compared L1 and L2 regarding the amount and quality of critical thinking produced. This study, therefore, aims to provide information about the differences in the use of L1 and L2 in peer feedback with regard to critical thinking, and answer the

question of whether it is advisable to choose between L1 and L2 in EFL classes during peer feedback sessions to enhance critical thinking.

Conclusion

In this chapter, the background of the study, statement of the problem, research questions, and significance of the problem have been discussed. The next chapter reviews the literature on critical thinking, its place in education and English Language Teaching (ELT), cooperative learning, peer feedback, and language use in ELT classes. In the third chapter, the research methodology, including the participants, instruments, data collection and data analysis procedures, is presented. In the fourth chapter, data analysis procedures and findings are presented. The fifth chapter is the conclusion chapter, which discusses the findings, pedagogical implications, limitations of the study and suggestions for further research.

CHAPTER 2 - REVIEW OF THE LITERATURE

Introduction

This study was designed to explore the differences between the critical thinking displayed in the native and the second language during peer feedback discussions. The researcher has attempted to answer the following questions:

1. Is there a quantitative difference between the critical thinking displayed in the L1 and the L2 during peer feedback discussions by Turkish university EFL students?
2. Is there a qualitative difference between the critical thinking displayed in the L1 and the L2 during peer feedback discussions by Turkish university EFL students?

This chapter will synthesize the literature on critical thinking and the place of critical thinking in education and language teaching, cooperative learning and peer feedback, and the language used in peer feedback discussions.

A Brief History of Critical Thinking

The history of critical thinking can be traced back to the time of Socrates. Socratic questioning, still a favored method for practicing critical thinking, basically involved asking critical questions to assess the clarity and consistency of the given information (Paul & Elder, 2001, p. 375). This concern about the quality of thought was shared by many other thinkers throughout history. Francis Bacon, for example, pointed out that people, if left unguided, could develop bad habits of thought that would lead them to ignorance, prejudice, and self-deception. Descartes, famous for his words "*Cogito, ergo sum*" ("I think, therefore I am"), emphasized the importance

of questioning the clarity and accuracy of thoughts. At the beginning of the twentieth century, Sumner stated that critical thinking, without which people would have delusions, superstitions, and misapprehensions, must be an indispensable goal of education. Likewise, Dewey strongly advocated critical thinking for the sake of a good society (Paul & Elder, 2001, p. 376).

Defining critical thinking

Although there is a long history behind critical thinking, it had not been defined until the beginning of the twentieth century. In addition, being an abstract and broad term, many different definitions concerning its various aspects have been suggested. The earliest definition of the term is by Dewey (1910), who defined it as "active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends" (p. 6). Ennis (1985) suggested another definition for critical thinking, which is, "reflective and reasonable thinking that is focused on deciding what to believe or do" (p. 8, cited in Kurfiss, 1988). Paul and Scriven define it as

> the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. (1992, cited in Huitt, 1998)

Fischer and Scriven's (1997) definition of the term is as "skilled and active interpretation and evaluation of observations and communications, information and argumentation" (p. 20). A more recent definition is given by Reichenbach (2001). According to his definition, critical thinking "is the careful, deliberate determination of whether we should accept, reject, or suspend judgment about the truth of a certain

claim or a recommendation to act in a certain way" (p. 19). Paul and Elder define critical thinking as

> a mode of thinking - about any subject, content, or problem - in which the thinker improves the quality of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them. (2001, p. xx)

Another recent definition of the term is by Halpern (2007), who defines it as

> the use of those cognitive skills or strategies that increase the probability of a desirable outcome. It is used to describe thinking that is purposeful, reasoned, and goal directed- the kind of thinking involved in solving problems, formulating inferences, calculating likelihood, and making decisions, when the thinker is using skills that are thoughtful and effective for the particular context and the type of thinking task. (p. 6)

In 1990, experts on critical thinking from the disciplines of philosophy, psychology, and education came together in a panel under the sponsorship of the American Philosophical Association, and they agreed on a definition of critical thinking and critical thinking skills through consensus. The panel was called the Delphi Project, and the general agreement on the definition was for purposes of educational instruction and assessment (Giancarlo & Facione, 2001). According to these experts, critical thinking is "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based" (p. 30). They further explained the term by defining an ideal critical thinker:

> The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex

> matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit. (Peter A. Facione, 1990, p.3)

By this explanation, they emphasize the dispositional aspect of critical thinking, as well as its cognitive aspect. Likewise, Giancarlo and Facione (2001) assert that a critical thinker must also have a positive attitude and inclination to using critical thinking skills (p. 30).

More relevant to the present study which aims to examine critical thinking in peer feedback discussions, Newman et al. emphasize the social and dynamic aspect of critical thinking along with its purpose and reason oriented nature. They state that "[C]ritical thinking is not just limited to the one-off assessment of a statement for its correctness, but a dynamic activity, in which critical perspectives on a problem develop through both individual analysis and social interaction." (Newman, Webb, & Cochrane, 1995, p. 64). Therefore, not only the separate types of thinking such as analysis or synthesis, but also their interaction within a social context is included in its definition.

As one can conclude by examining these attempts among the many to define the term in literature, it is not easy, if not impossible, to put all that is meant by critical thinking into one sentence. Still, although the definitions are great in number, the common points in these definitions indicate that critical thinking, being focused and demanding a high order of cognitive processes, is more than just ordinary thinking (Paul, 1993, p. 134; Paul & Elder, 2001, p. 18). In fact, it can also be inferred from these definitions that critical thinking has a purpose, which is to think

and act in a reasonable way in a specific situation, and it includes application of certain skills such as analysis, synthesis, and evaluation.

Critical Thinking and Education

Teaching critical thinking has been suggested as one of the main goals of education for the betterment of the society since the beginning of the twentieth century (e.g. Dewey, 1910; Sumner, 1906). However, the need for critical thinking has become more important over the course of time. Especially in this age of information and rapid change, not only but especially in democratic societies, there is a great need for free minds that can acquire, process and evaluate information effectively, and make reasonable decisions. Kennedy, Fisher, and Ennis (1991) state that

> the current interest in critical thinking has arisen from … the lack of higher order thinking ability in our students and the need for students to be able to think critically in order both to meet the demands of the modern world and to participate fully in our democratic society. (p. 13).

Paul (1993) also emphasizes the need for critical thinking for the benefit of society, and strongly suggests that teachers, textbooks, and curricula must be prepared and/or adjusted to be able to teach critical thinking (Paul, 1984).

Critical thinking is necessary for the sake of the society, but is also necessary for the individual. Critical thinking is valuable in one's personal life because it can decrease the probability of making serious mistakes or wrong decisions. Paul and Elder explicitly state that the quality of one's thinking determines the quality of one's life, and strongly suggest learning to think critically to be able to open new doors for oneself, minimize mistakes, see alternatives and maximize potential understandings

(Paul & Elder, 2001, p. xiv). Critical thinking, therefore, is necessary to cope with today's rapidly ever-changing world.

Critical thinking is also valuable in the educational environment. Cotton (1991) cites many studies (e.g. Hudgins & Edelman, 1986; Kagan, 1988) that indicate that the practice of critical thinking results in a positive difference in the academic achievement levels of students. In addition, Crawford, Saul, Mathews, and Makinster (2005) state that "the most successful classrooms are those that encourage students to think for themselves and engage in critical thinking" (p. 4). They further add that "students who think critically are typically excited about their learning. They see challenges and opportunities about learning in even the most difficult intellectual tasks…These are the students who make teaching enjoyable and exciting" (p. 4).

According to Bailin and Siegel (2003), there are four main reasons why critical thinking is a fundamental educational goal. The first and the most important reason is that students should be treated with respect, as individuals that can think and decide for themselves. Therefore, they should be enabled to judge for themselves by developing critical thinking skills. The second reason is that preparing students for adulthood requires student self-sufficiency and self-direction, hence critical thinking. Third, all rational traditions of education, such as science, literature, mathematics, history, arts, et cetera, both require and are basic to critical thinking. The fourth reason is that the demands of democratic citizenship require critical thinking (p. 189).

Critical Thinking Skills

Baron (1990) defines a skill as "whatever it is that improves in speed and accuracy as a result of practice" (p. 82). Reichenbach (2001) explicitly states that

critical thinking involves a set of skills (p. 13), a view shared by other authors (Fisher, 2001; Halpern, 2007; Kurfiss, 1988), as well as by many scholars from different disciplines who participated in the Delphi Project (Facione, 1990). Halpern (1998) states that

> teaching critical thinking is based on two assumptions (1) that there are clearly identifiable and definable thinking skills which students can be taught to recognize and apply appropriately, and (2) if recognized and applied, the students will be more effective thinkers. (p. 5)

Clarifying the definitions of critical thinking by defining the skills involved is necessary, especially in the educational context.

Among the most influential attempts to define critical thinking skills, the earliest was by Bloom (1956b). In his work, he argues that knowledge as an educational outcome is not sufficient and that students should be taught skills necessary to use knowledge in different situations to solve different problems (p. 38). He defines skills as "modes of operation and generalized techniques for dealing with problems" (p. 38), and argues that skills are more applicable than knowledge because they can be transferred to other situations. In fact, in the cognitive dimension of Bloom's taxonomy, he names six basic skills as educational goals: knowledge, comprehension, application, analysis, synthesis, and evaluation. According to Bloom, this order represents a hierarchy, meaning that each skill is built on or makes use of the preceding, theoretically simpler skill(s). The last three of these skills, in particular, are considered to be higher-order cognitive skills involved in critical thinking (Bloom, 1956b).

Although the taxonomy was found to be useful and influential, the hierarchical order of Bloom has been criticized by Paul (1993), who argued that this

one-way hierarchy did not exist, and stated that "achieving knowledge always presupposed at least minimal comprehension, application, analysis, synthesis, and evaluation" (p. 382). However, it should be noted that Bloom also points out the circular nature of the order in his work by stating that evaluation being the last goal does not mean that it is the end of a thinking process, but "it is quite possible that the evaluative process will in some cases be the prelude to the acquisition of new knowledge, a new attempt at comprehension or application, or a new analysis and synthesis" (p. 185). This complex nature of critical thinking is acknowledged also by Reichenbach (2001), who built his work, with which he intended to help his readers in developing critical thinking skills, on Bloom's taxonomy. He states that "skills build on each other" and starting from basic skills a learner gradually gains mastery (p. 15). However, he also states that these skills are interrelated and that they work together (p. 17).

In the Delphi project, which aimed to clarify the term 'critical thinking' for educational purposes, the general consensus regarding the component cognitive skills of critical thinking was on the skills of interpretation, analysis, evaluation, inference, explanation and self-regulation. Each of these skills was defined and clarified by sub-skills. According to the definitions and clarifications:

- **Interpretation** involves comprehension and expression, and its sub-skills are *categorization, decoding significance*, and *clarifying meaning*.
- **Analysis** involves identifying relationships among forms of representations that intend to express beliefs, judgments, experiences, reasons, information, or opinions. The sub-skills of analysis are *examining ideas, identifying and analyzing arguments*.

- **Evaluation** involves assessing credibility and logical strength, and its sub-skills are *assessing claims, assessing arguments*.
- **Inference** involves detecting and securing elements to draw reasonable conclusions, and its sub-skills are *querying evidence*, *conjecturing alternatives,* and *drawing conclusions.*
- **Explanation** involves stating the results of reasoning and justifying them. Its sub-skills are *stating results, justifying procedures*, and *presenting arguments*.
- **Self-regulation** involves monitoring one's own cognitive processes by analyzing and evaluating them. Its sub-skills are *self-examination* and *self correction* (Facione, 1990).

Giancarlo and Facione (2001) summarize the conclusions of Delphi Project about the nature of critical thinking (CT) skills as

> CT is non-linear and recursive to the extent that in thinking critically a person is able to apply CT skills to each other as well as to the problem at hand. For example, one is able to explain one's analysis, analyze one's interpretation, or evaluate one's inference. (p. 29)

Indeed, critical thinking has a complex nature because applying one skill on another is possible and often necessary.

In a more recent work on critical thinking, Fisher (2001) also pinpoints some fundamental critical thinking skills as being able to

> identify the elements in a reasoned case, especially reasons and conclusions; identify and evaluate assumptions; clarify and interpret expressions and ideas; judge the acceptability, especially the credibility, of claims; evaluate arguments of different kinds; analyze, evaluate and produce explanations; analyze, evaluate and make decisions; draw inferences; produce arguments. (p. 8)

With this description, Fisher also describes the nature of critical thinking as non-linear, as these skills intermingle, for example when evaluating or analyzing explanations.

There is a general agreement among theorists that teaching these skills in the educational process is possible and necessary (e.g. Fisher, 2001; Halpern, 2007; Paul, 1993; Paul & Elder, 2001). However, whether to teach it in a separate course devoted to teaching critical thinking skills or to infuse it in other subject areas has been a matter of debate. Carr (1988) argues that thinking can not be separated from content, and separate critical thinking courses and texts may lead to fragmentation of the skills. Howe (2004) states that critical thinking "can not be learned in isolation. Perhaps it cannot be taught explicitly. However, it can be integrated in all subject areas and related to the ideas students already have" (p. 508). On the other hand, supporters of independent teaching of critical thinking claim that limiting critical thinking to a specific subject matter would inhibit the development and application of critical thinking to other disciplines. For example, Gelder (2005) states that

> students will not become excellent critical thinkers merely by studying history, marketing, or nursing, even if their instruction is given a "critical" emphasis (as it should be). Critical thinking must be studied and practiced in its own right; it must be an explicit part of the curriculum. (p. 3)

In fact, this debate is closely related to an important question that asks whether critical thinking skills are transferable or not, which will be discussed in the next section.

Transferability of Thinking Skills

Teaching critical thinking would be of no value or no different from rote learning if it were not transferable. Transfer is defined by Halpern (2006) as

"spontaneous use of a skill in a context that is different from that one in which it was learned" (p. 8). The question of whether critical thinking is a transferable skill is controversial, although there are studies that indicate that it is (e.g. Kosonen & Winne, 1995; Nisbett, 1993; Perkins& Grotzer, 1997, cited in Halpern, 1998), and there are scholars who claim that critical thinking skills can be transferred with guidance (Halpern, 1998; Perkins & Salomon, 2006). Beyer (2008) concludes from a review of research on critical thinking that instruction and practice make transfer possible. According to Halpern (1998), transfer of critical thinking skills is certainly possible as long as it is taught accordingly and encouraged. Explicit instruction of critical thinking skills, use of thoughtful questions, meaningful practice with feedback, use of tasks that require analysis and synthesis, and use of authentic material are offered by Halpern as methods that can make critical thinking transfer possible.

Another supporter of the idea that critical thinking is transferrable is Housen, who claims that "[o]ne could even argue that transfer is a predictable attribute of critical thinking. Critical thinking may not be critical thinking unless it shows signs of transfer" (Housen, 2002, p. 101). In his longitudinal study that aimed to examine the effect of curriculum on developing aesthetic understanding, critical thinking, and transfer, Housen identified two kinds of transfers: context transfer and content transfer. Context transfer refers to critical thinking transfer across social contexts, from classroom discussions to individual monologues. Content transfer refers to critical thinking transfer across content areas, from art to non-art subjects. The findings of his study suggested a positive content and context transfer for critical thinking (Housen, 2002).

To the knowledge of this researcher, there is little research about the transfer of critical thinking abilities between languages of language learners. There have been studies about transfer of particular language skills such as writing or listening between languages (see e.g. Kobayashi & Rinnert, 2008; Vandergrift, 2006). Through common sense one could claim that these skills involve some critical thinking types; however, no study directly addressed the transfer of critical thinking abilities between a first and second language.

Language Teaching and Critical Thinking

The close relationship between language and thought has been discussed many times. Einstein, for example, pointed out that language was an instrument for expressing our thoughts and relating them to earlier thoughts. He further claimed that when thoughts get more abstract language becomes a tool for reasoning (cited in Vermillion, 1997). Likewise, Coster and Ledovski (2005) state that "language abilities and thinking competencies shape each other" (p. 3). Chaffee (1985) also points out the reciprocal and dynamic relationship between language and thinking and states that using language is a thinking process (p. 3). Being so closely related to thinking, therefore, language learning is a suitable setting for using critical thought.

Current communicative approaches to language learning emphasize meaningful use of language as a communication tool (Kabilan, 2000). Effective communication requires effective thinking. Critical thinking, therefore, has an important place in language classrooms. Waters (2006) suggests that activities that stimulate thinking be used in all levels of English language classes in order to enable learners, through high order thinking skills, to go beyond the information they receive. Vermillion (Vermillion, 1997) states that critical thinking skills help

students become better language learners. In fact, there is no reason why the general benefits of critical thinking for learning should not also apply to language learning.

Critical thinking is especially important in the *English for Academic Purposes* (EAP) context because it prepares students for academic education. Equipping learners with necessary skills for their further university education is a major goal for EAP. According to Vermillion (1997), teaching and providing adequate time and opportunity for the practice of critical thinking skills, which students will make use of and continue developing in their academic education, is a primary component of EAP (p. 6). Klimoviene, Urboniene, & Barzdziukiene (2006) state that "critical thinking is a desirable skill in all aspects of university work because it allows knowledge and skills to develop and evolve" (p. 78). Therefore, both for the sake of language learning and further academic experiences, critical thinking is considered to be vital for EAP. Today, many universities have acknowledged this necessity by the placement of teaching critical thinking in their curricula.

Critical Thinking and Language Skills

Critical thinking is a crucial factor in determining the quality of reception and delivery of information and ideas through language. Therefore, it is applicable to and necessary for all language skills, i.e., listening, reading, writing, and speaking. Paul and Elder (2001) state that all these skills are modes of thinking, and they are highly interrelated because of shared generic characteristics, which are clarity, preciseness, accuracy, relevance, responsiveness to complexity, broadness as much as the issue requires, and being focused on the appropriate point(s) of view (p. 164). This approach makes considerable sense; however, in the ELT (English Language

Teaching) context, each language skill has a special place. Therefore, the relation of critical thinking to each skill will be discussed separately in the following sections.

Receptive Skills

Listening is a crucial communication skill and an important way to gain knowledge. Poor listening leads to incomplete internalization of information and misunderstanding (Paul & Elder, 2001, p. 164). Critical thinking skills in listening are necessary, especially for a fruitful discussion (Chaffee, 2000, pp. 70-72). According to Ruggiero (1995), a critical listener should be able to understand several sides of an argument, distinguish limitations and advantages of an opinion, make logical inferences, and draw correct conclusions from what has been listened to (p. 231). Unless listeners have these skills, comprehension of the intended meaning, and hence effectiveness of the communication is at risk.

Reading, like listening, is a receptive skill and effective reading also requires critical thinking skills. Paul and Norish (cited in Fisher & Scriven, 1997) have developed a list of critical abilities regarding both receptive skills as

> the ability to (1) create an accurate interpretation, (2) assess the author's or speaker's purpose, (3) accurately identify the question-at-issue or the problem being discussed, (4) accurately identify basic concepts at the heart of what is said or written, (5) see significant implications of the advocated position, (7) recognize evidence, argumentation, inference (or their lack) in oral and written presentations, (8) reasonably assess the credibility of an author or speaker, (9) accurately grasp the point of view of the author or the speaker (10) empathically reason within the point of view of the author or speaker. (p. 91)

The application of critical thinking skills to reading is relatively easier than it is to listening because one can always go back and read again. This is not always possible with listening. Being a major way of gaining knowledge from the immense

sources of information in the world, the application of critical thinking skills to reading is especially important.

Productive Skills

Speaking is an immediate way of communicating thoughts and exchanging ideas. It is a productive skill and speakers are responsible for the clarity of their intended meaning, arguments, reasons, and explanations. Applying critical thinking skills to speaking makes communication more effective by making it clear and easy to follow. According to Paul and Norish's list of critical abilities for productive skills, a critical speaker (and writer) must have

> the ability to (a) identify and explicate one's own point of view and its implications, (b) be clear about and communicate clearly, in either spoken or written form, the problem one is addressing, (c) be clear about what one is assuming, presupposing, or taking for granted, (d) present one's position precisely, accurately, completely, and give relevant, logical and fair arguments for it, (e) cite relevant evidence and experiences to support one's position, (f) see, formulate, and take account of alternative positions and opposing points of view, recognizing and evaluating evidence and key assumptions on both sides, (g) illustrate one's central concepts with significant examples and show how they apply in real situations, etc., (h) emphatically entertain strong objections from points of view other than one's own. (cited in Fisher & Scriven, 1997, p. 91-92)

These abilities are even more crucial to writing because the receivers have to understand the intended meaning or purpose of sentences without the help of intonation, mimics and gestures.

Writing is the language skill most frequently and directly related to critical thinking in literature. According to Flower and Hayes (2004), writing is one of the most complex mental activities, and involves a set of distinctive thinking processes

that are organized by the writer during composing (p. 41). These processes are generating ideas, organizing, goal-setting, translating, and revising (pp. 42-52). According to Bean (2001), writing is "a process which involves critical thinking per se and the communication of results arrived at" (cited in Kovalik & Kovalik, 2007). Likewise, Kovalik & Kovalik (2007) state that "academic writing and critical thinking are quite inseparable, in that activities meant to pave the way for critical thinking are also paving the way for writing" (p. 312). Indeed, the most basic skills of higher order thinking - analysis, synthesis, and evaluation - are crucial to both critical thinking and writing. Writing, therefore, because of its immediate use of language and thought, is an ideal context for teaching critical thinking in language classes.

Critical thinking and Cooperative Language Learning

Cooperative learning is a frequently suggested method for the enhancement of critical thinking skills. Olsen and Kagan (1992) define cooperative learning as

> group learning activities organized so that learning is dependent on the socially structured exchange of information between learners in groups and in which each learner is held accountable for his or her own learning and is motivated to increase the learning of others. (p. 8)

When structured well, cooperative learning promotes critical thinking as well as academic achievement, social and personal development, and language learning (D. W. Johnson, et al., 1995a; Robert E. Slavin, 1995,pp. 2-3). Johnson et al. (1995a) state that "cooperative, when compared with competitive or individualistic, learning tends to result in more higher-level reasoning, [and] more frequent generation of new ideas and solutions" (p. 35).

In cooperative learning, learners interact using their social skills such as asking for clarification and explanation, elaborating on the ideas of others, or explaining ideas or concepts (Olsen & Kagan, 1992, p. 13). Johnson et al.(1995a) strongly suggest using cooperative learning, stating that "interpersonal exchanges promote the use of higher level thinking strategies, higher level reasoning, and metacognitive strategies" (p. 54). Furthermore, they emphasize five basic principles necessary for cooperative learning to be effective. The first of these essential elements is *positive interdependence*, which refers to the perception of learners that they are all interdependent members of a group and should succeed together. The second element is called *face-to-face promotive interaction,* which involves students' promoting each other's success by helping, assisting, supporting, encouraging, and praising one another's efforts to learn. The third element is *individual accountability,* which means each member of a group is responsible for doing their part of the work and learning the target content or skill. Fourth, students must be able to use *social skills,* such as communication or conflict-management skills. Finally, *group processing*, discussion and evaluation of the group work by learners, should be involved in cooperative learning (pp. 63-65).

Peer Feedback

Peer feedback fits in with cooperative learning as it potentially involves the basic principles proposed by Johnson & Johnson (Hirose, 2005). In language learning classes, peer feedback is used especially for reviewing writing, which creates a potential setting for the enhancement of critical thinking skills because it involves "students' critically reading and discussing each other's drafts" (Lockhart & Ng, 1993, p. 17). Based on a review of research, Lockhart and Ng (1993) pinpoint

the benefits of peer feedback as follows: gaining a sense of wider audience; impetus for revision; gaining a clear understanding of readers' needs; practicing critical thinking by responding critically; increasing insight into writing and revising processes; enhanced attitudes towards writing; reducing writing anxiety; and increasing motivation (pp. 17-18).

Tsui and Ng (2000) identified four roles of peer comments that contributed positively to the writing process: enhancement of a sense of audience, raising learners' awareness of their own strengths and weaknesses, encouraging collaborative learning, and fostering the ownership of text. Among these, awareness of one's own performance is closely related to critical thinking, as critical thinkers must also be able to analyze and evaluate their own work. In this regard, research indicates that the sense of audience and evaluative questions involved in peer feedback help learners enhance their ability to evaluate their own work (Stoddard & MacArthur, 1993; Cheng & Warren, 1996, cited in Hyland & Hyland, 2006).

Indeed, peer feedback provides a reasonable setting to practice critical thinking skills in language classes. Learners can work actively to analyze the work of their peers, looking for organization of ideas, clarity, accuracy, relevant information, and justification of arguments. They can judge the strong and weak points of their peers' work, and communicate their evaluation for the betterment of that work.

Research indicates that students find peer feedback most useful in revising their drafts, learning how to analyze writing, discovering new ideas and view points, and improving their writing skills (Lockhart & Ng, 1993). However, research also indicates some problems about peer feedback, (Amores, 1997; Leki, 1990; Mendoca & Johnson, 1994; McGroarty & Zhu, 1997; Nelson & Carson, 1988; Tsui & Ng,

2000; Zhang, 1995, cited in Hyland & Hyland, 2006b). Hyland & Hyland (2006b) identify these problems as students' preference for teacher feedback and being more likely to incorporate it into their revisions; students' belief that the teacher is the expert, and that fellow students might not be able to tell them what is wrong with their writing; students' reluctance to trust their peers; students' problems detecting errors and providing quality feedback; students' tendency to make formulaic comments; students' inappropriate and over-critical feedback; and students' over-focus on surface errors. It can be concluded that these problems are basically about students preferences and the quality of feedback, but Hyland & Hyland (2006b) cite studies (e. g. Hedgcock & Lefkowitz, 1992; Paulus, 1999; Stanley, 1992) that indicate these problems can be overcome by careful preparation and training (see also Berg, 1999; Min, 2005).

In addition to these issues, there are concerns about the effects of cultural differences and language proficiency on the effectiveness of peer feedback, especially in terms of the quality of interaction. Hyland and Hyland (2006b) state that

> it has been acknowledged that peer responders working in their L2 may lack communication and pragmatic skills for successful interaction and because such students may come from different cultural groups with different expectations about interactions, this may also affect both the nature and success of the interactions. (p. 92)

The EFL context, compared to the ESL context, can be considered a safer setting for peer feedback discussions because the learners often have similar cultural backgrounds. However, an EFL learner is also vulnerable to the problems that may arise from the use of the target language because they also lack pragmatic and

communication skills for interaction and as the target language is not frequently used in their environment, they have less exposure to the input from which they could improve such skills.

Language of Peer Feedback Discussions

Studies indicate that language learners, proficient or non proficient, use their native language (L1) while writing in their target language (L2) to a significant extent, especially for the purposes of generating ideas, organizing their work, process controlling , associating ideas, initiating a thinking episode, and facilitating the development of a thought (L. Wang, 2003; W. Wang & Wen, 2002). L. Wang (2003) concludes from research, including his own study, that L2 writers think in their L1 much of the time and they use their L1 for problem solving and decision making while composing (p. 350). Furthermore, Wang and Wen (2002), examining the use of the L1 in L2 writing processes of proficient and non proficient Chinese learners, conclude that world knowledge and rhetorical knowledge is L1 dominant, as their findings show that idea generating and idea organizing activities are L1 dominant (p. 244). Therefore, it would not be unreasonable to say that language learners use their native language when thinking critically about their writing.

Some studies have examined peer feedback discussions on writing in relation to language. Zhu (2001) compared the quality of peer feedback of native speakers and second language learners. The findings of this study indicated that second language learners' participation in the oral discussion of writing was more limited than that by native speakers', and that native speakers responded more critically. In another study, by Huang (1996), the qualitative differences between the use of L1 and L2 in peer feedback groups in terms of the nature of students' comments and

interaction were examined. The findings of this study indicate that L1 groups communicated more effectively, and produced more specific comments. Although this study is a pilot study with limitations that make it difficult to generalize the results, it raises questions about the use of L1 in peer feedback discussions.

As discussed in the previous section, peer feedback has much potential for the practice, and therefore enhancement, of critical thinking in language classes. However, if learners think in their native language and have problems expressing these thoughts in their foreign language, the effectiveness of peer feedback conducted in the target language may be limited. Therefore the differences between the use of the native language and the foreign language in terms of the display of critical thinking skills in a peer feedback discussion are worth examining.

Conclusion

In this chapter, the literature on critical thinking was reviewed. Its definitions, importance in education, skills, and relations to language learning and language skills were discussed. In addition, peer feedback as a cooperative learning method was discussed in terms of its benefits and drawbacks, and as a suitable setting for the practice of critical thinking skills. It has been argued that the effective use of language in peer feedback discussions is important for the effective practice of critical thinking skills. In the literature, however, possible differences between the use of the native language and the target language regarding the display of critical thinking skills in peer feedback discussions have not been examined. The study described in this thesis will attempt to fill this gap by examining the quantitative and qualitative differences in terms of critical thinking displayed in peer feedback discussions when practiced in L1 and L2. In the next chapter, the research tools and

methodological procedures followed will be discussed. In addition, information about the setting and the participants will be provided.

CHAPTER 3 - METHODOLOGY

Introduction

This study was designed to explore the differences between the critical thinking displayed in the native and the second language during peer feedback discussions. The researcher has attempted to answer the following questions:

1. Is there a quantitative difference between the critical thinking displayed in the L1 and the L2 during peer feedback discussions by Turkish university EFL students?
2. Is there a qualitative difference between the critical thinking displayed in the L1 and the L2 during peer feedback discussions by these students?

In this chapter, information about the setting, participants, instruments, data collection procedures and data analysis will be provided.

Setting

The study was conducted in the second term of the 2008-2009 academic year at Anadolu University, at the Program in Teaching English as a Foreign Language (TEFL) under the Department of Foreign Language Education (DEFL). Students are accepted to this program after a university entrance examination and a language proficiency exam. If a student's English is found to be below the required level in the proficiency exam, s/he follows the preparatory language program initially. The TEFL program offers courses on language teaching methodology and profession, and courses to enhance cultural and linguistic skills. In their first year, students take courses on basic language skills such as Listening, Speaking, Reading, and Writing.

In the Writing courses, students are instructed about types of essays including Cause and Effect Analysis Essay, Summary-Analysis Essay, Problem-Solution Essay, and Argumentative Essay. In addition, students are required to learn academic language and the main features of academic research articles. In these courses, students are also trained in giving and receiving peer feedback, which is one of the main activities of the course. Moreover, critical thinking is listed among the generic competencies of the course. Key aspects of critical thinking, such as analysis and evaluation, are among the goals of the Writing course.

Participants

The participants of this study were 16 advanced level EFL students who were chosen from among the second grade students of the TEFL program. Second grade students were chosen because they are high proficiency students who have learned how to write and exchange feedback on essays. By choosing these students, the researcher aimed to minimize the possible effect of proficiency level, lack of knowledge, or lack of practice on exchanging feedback on writing.

The participants were chosen among the high scorers on the Ennis Weir Critical Thinking Essay Test (R.H. Ennis & Weir, 1985) to minimize the possible effect of differences in critical thinking skills between students. The test was translated into the native language (Turkish) of the students to exclude reading comprehension issues. To ensure validity, the researcher had a professional translator translate the test back into English, and a native English speaker compared the two versions to make sure the essential meaning remained the same. In addition, the researcher had two Turkish students pilot the test. The piloting revealed that one feature of the test that was graded in its criteria (the emotive tone of the language)

was lost after translation. Therefore, the researcher decided to exclude that item from the grading criteria. The test was graded by two graders separately according to the adapted criteria. Among 97 students who took the test 16 students who achieved high scores were chosen as participants for the main study (of these, eight were later excluded from the analysis – see 'Data Collection Procedure' below).

Instruments

Three instruments were used for the purposes of this study: students' essays, a peer feedback guide sheet, and a critical thinking framework. The researcher conducted a pilot study to be better able to decide on the items to be included in these instruments, and to see what kind of problems may arise. For the study, the participants were asked to write two essays. The essays were essentially argumentative, and required opinions of the writers. The essay topics were as follows:

1. Some students think that English Literature courses are not related to or necessary in English Language Teaching departments. Do you agree or disagree? Give reasons for your answer.

2. Facebook has become one of the most commonly used social networks. Do you believe this website is good for people and their social relations? Why / why not? Give reasons for your answer.

With regard to the peer feedback guide, the piloting session with participants similar to those to be used in the main study revealed that a detailed feedback guide was too directive and left little room for students' thinking. One student stated that everything she would say had been written on the sheet. For this reason, a less

detailed feedback sheet was developed. For the purposes of the study, it was prepared both in English and Turkish. The sheet included the following items:

A. Comment on the following:

1. clarity of the main and supporting ideas.

2. relevance and coherence of the ideas and the supporting sentences.

3. strength of the ideas and the supporting sentences.

4. organization (arrangement of the ideas, and paragraphs) of the essay.

5. language use in the essay.

6. overall effectiveness of the essay.

B. Do you have other comments and/or suggestions that would help the improvement of the essay?

The critical thinking framework was developed by taking into consideration commonly accepted characteristics of critical thinking, types of critical thinking that are possible in peer feedback discussions on writing, and previously used coding frameworks to analyze critical thinking in communication. In addition, the researcher used the data from the pilot and the actual study to shape the framework. The framework was further developed during the analysis process, therefore the final framework will be presented in Chapter 4.

Data Collection Procedure

In January 2009, the researcher contacted the head of the DEFL to ask for permission to conduct the study in the TEFL program. After the study was discussed by the ethics committee of the department, permission was given to the researcher. The English Literature courses were found to be suitable to spare one class hour for

the Ennis Weir critical thinking test because students continued writing essays in this course.

In February, The Ennis Weir critical thinking test was given with the help of colleagues working in the institution. 97 students took the test. The researcher graded the answers and handed them with the test manual to a bilingual second grader. The inter-rater reliability was statistically analyzed using Cronbach Alpha, and the result was 0.903. According to the average results, 16 students who scored the highest were chosen as participants.

The researcher contacted the participants and asked for their cooperation. They were asked to write two essays on two different topics. The times of the feedback sessions were arranged together. The participants were given at least three days to write the essays. In order not to interfere with the program courses, the feedback sessions were held in extra-class hours, and in three days towards the end of the week.

The participants were divided into four groups of four students according to the time they were able to attend the feedback sessions. The sessions were held with one group at a time in the researcher's office. The participants had already received training on exchanging feedback in their first year Writing courses. However, the researcher spared time for mini-trainings before the sessions to make sure that the students were aware of the basic principles of giving and receiving feedback and to familiarize them with the guide sheets.

On the first day of the sessions, the participants in Group 1 were given the Turkish version of the feedback guide sheet, and the training and instructions they received were in Turkish, as well. They were asked to use Turkish during the

discussion of the first four essays, each of which was written by a different participant. Two of the essays were on the first topic, and two of them were on the second. The participants were given up to fifteen minutes to read and ten more minutes for the discussion; however, neither lasted this long. After the discussions in Turkish were finished, the participants took a fifteen-minute break. The researcher told the participants that they would be asked to continue the discussion in English. They then continued the discussion on the rest of the essays in English. The next day, the participants in Group B were given the English version of the guide sheet, and the training and instructions they received were in English. They were asked to use English during the first set of discussions, and Turkish during the second set. The participants in Group C followed the same procedure as Group B; however, the participants' essays were written too carelessly and mostly they did not take the discussions seriously. Therefore, the discussions were dominated by long pauses and insincere comments. Finally, Group D could not complete the discussions on all of the essays because of time limitations. Therefore, the researcher decided to analyze the recorded data from the first two groups and exclude the other two groups' data from the analysis.

Data Analysis

The recorded discussions of the two groups were transcribed and the utterances that contained critical thinking elements were identified and labeled according to the categories in the critical thinking framework that was prepared in the light of the literature. During coding, the researcher continued shaping the framework, as it was not possible to anticipate all possible types of critical thinking. Therefore, the critical thinking categories in the framework took their final version

after the transcriptions were coded. The framework was prepared both in Turkish and English, and used according to the language of the discussion being analyzed. After the researcher finished coding the transcriptions, a second rater who is a Turkish-English bilingual and teacher of English, was asked to identify and label the utterances according to the final version of the framework. The results were negotiated.

To answer the first research question, the researcher counted the instances of utterances that contained elements of critical thinking in each discussion. The numbers of utterances in Turkish and English were compared using non-parametric statistical tests.

To answer the second research question, the researcher counted the number of each type of critical thinking utterance in each discussion. The number and nature of each type of critical thinking utterance in Turkish and English were compared.

Conclusion

This chapter has provided information about the research questions, setting, participants, instruments, the treatment period, and the data collection procedure. In the following chapter, the data analysis procedure and the results will be discussed.

CHAPTER 4 - DATA ANALYSIS

Introduction

This study was designed to explore the differences between the critical thinking displayed in the native and the second language during peer feedback discussions. The researcher has attempted to answer the following questions:

1. Is there a quantitative difference between the critical thinking displayed in the L1 and the L2 during peer feedback discussions by Turkish university EFL students?
2. Is there a qualitative difference between the critical thinking displayed in the L1 and the L2 during peer feedback discussions by these students?

In this chapter, the researcher presents an analysis of the transcriptions of discussions that were recorded during the peer feedback sessions among eight Turkish EFL students.

In the following sections, information about the amount and the quality of critical thinking utterances in each language will be provided. For this purpose, the researcher will discuss the nature of the utterances, the framework according to which the utterances were labeled, the types of critical thinking displayed, a comparison of these in two languages, and other notable qualities of the discussions in each language.

The Nature of Discussions

Before presenting a detailed analysis of the discussions, it may be helpful to describe the discussions in terms of physical qualities.

Session	Group	Language	# of Students	Essay Topics	Duration		Turn-taking	Length (words)
1	A	L1	4	Topic 1	6’ 21”	23’	80	1313
				Topic 1	6’ 02”			
				Topic 2	6’ 22’’		77	1319
				Topic 2	4’ 59”			
2	A	L2	4	Topic 2	4’ 27”	16’	73	721
				Topic 2	4’ 33”			
				Topic 1	4’ 14”		39	718
				Topic 1	3’ 41”			
3	B	L2	4	Topic 2	6’ 17”	23’	36	1157
				Topic 2	6’ 10”			
				Topic 1	6’ 05”		35	886
				Topic 1	4’ 12			
4	B	L1	4	Topic 1	4’ 53”	23’	36	1196
				Topic 1	7’ 02”			
				Topic 2	8’ 26”		40	1249
				Topic 2	3’ 27”			

Table 1 – Data collection precedure

As shown in Table 1, the discussions were held in four sessions: two sessions by Group A and two by Group B. During each of these sessions, students discussed four essays they had written previously. These essays were on two different topics given by the researcher.

Group A started with a discussion in Turkish, which lasted approximately 23 minutes. During this session, students took 157 turns in total. Group A's second session was in the L2. This session lasted about 16 minutes and students took 112 turns. Unlike the first group, Group B started the discussions in the L2. This session was about 23 minutes long, and students took 71 turns in this session. Group B's second session, which was in the L1, also lasted about 23 minutes, and students took 76 turns.

The analysis of the discussions

The unit of analysis and the framework were determined by the researcher after extensive piloting of different coding schemes. The unit of analysis was decided as one unit of meaning, which may refer to phrases, sentences, paragraphs or messages which embody at least one category from the framework (Newman, et al., 1995). For example, in some cases the utterances of students were interrupted and then completed in the next turn. The interrupted sentences or ideas were counted as a single unit of meaning. The framework was prepared by the researcher by going back to the previous studies to bring together some categories that would be helpful in coding the discussions at hand (Guiller, et al., 2008; Newman, et al., 1995), and in the course of coding, related categories from the literature (e.g. Bloom, 1956; Ennis, 1996; Facione, 1990) were added and the unnecessary ones were omitted.

After determining the unit of analysis and shaping the framework, the researcher coded the transcriptions. She then clarified and exemplified the categories from the transcriptions and made the framework ready for the second coder. Before the second coder began coding, she was informed about the nature of critical thinking and the categories in the framework. The video recordings, the essays written by the students, and the feedback guide sheet were also handed over, as these were found to be helpful in understanding the context and the nature of the utterances.

After the second coder finished coding the first half of the transcriptions, the researcher and the second coder sat down for a negotiation to determine how well the framework had worked. After this negotiation process, it was found that some categories were difficult to differentiate from each other, and not adequately described. Upon this, the researcher made the final changes to the framework, to make it simpler and include more distinguished categories. For example, in the first framework “explicit statements of point of view” and “reasoning-justifying” were two separate categories. However, explicit statements of point of view without reasoning or justifying were not considered critical thinking. It was difficult to differentiate these categories, so many cases of overlap or coding one for the other took place. Therefore, after the first coding, the researcher decided to combine these categories. After the framework had taken its final shape, both the researcher and the second coder coded the whole transcriptions over, separately. Then the researcher extracted each unit of analysis and put them together according to their categories. Then the two coders checked these extracts to see if they still thought the same about each utterance, and made their final decisions.

The inter-coder reliability was calculated by a classification analysis, i.e. calculating the percentage of the total number of units for which the coders agreed. After the first complete coding, the inter-coder reliability was 93%. After extracting and making final decisions, the inter-coder reliability was 98%.

Labeling the utterances

In the following paragraphs, the framework that was used for the final analysis will be described. Table 2 shows all the categories and their descriptions.

Label	**Critical Thinking (CT) indicator**	**Label**	**Definition and Sub-categories**	**Notes**
C1	References (bringing outside knowledge/experience)	**SC10**	References to standards and handouts (i.e. evidence of using previous knowledge, references to what has been learned before in the lessons)	Not critical thinking (CT) unless followed by a comment.
		SC11	References to task material-the feedback guide sheet-	
C2	Explicit statements of point of view, reasoning /justifying	**SC20**	Expression of agreement, disagreement, results of reasoning and/or evaluation. Reasoning (adding new ideas by reasoning) Justifying (explaining why something was done in that way)	Not CT unless followed by expansion or comment
C3	Clarification	**SC31**	Checking, requesting affirmation, explanation or clarification (Asking for a clarification)	
		SC32	Discussing ambiguities to clear them up, answering clarification questions	Not CT if only short answers (Yes/No) were used.
C4	Analysis/Interpretation	**SC40**	References to the essays *to determine the role various expressions play, *identify the conceptual relationships of the parts to each other and to the whole *identify and differentiate the	

			intended main conclusion, the overall structure of the argument or chain of reasoning	
C5	Identifying a problem (analysis-synthesis-evaluation)	**SC51**	Organization or structure of ideas/arguments	Not CT unless expanded or justified.
		SC52	Relevance of ideas, Credibility/ acceptability/ lack of evidence and/or support	
C6	Offering suggestions and/or alternative solutions	**SC61**	To solve organizational problems	Not CT unless expanded or justified.
		SC62	To support an idea, argument or claim, to improve standards	
C7	Self regulation /disposition	**SC71**	Self examination Self correction	
		SC72	Inviting comments and criticisms Welcoming new ideas Welcoming outside knowledge Accepting explanations and/or suggestions	
C8	Not Critical Thinking	**SC81**	False CT *Repeating information without adding anything new *Stating agreement without taking these further or adding personal comments *ambiguous, confused, irrelevant or trivial statements/points/issues	
		SC82	Dispositional *Squashing, putting down new ideas, or attempts to bring out outside knowledge *Sticking to prejudice or assumptions *Continue to ignore ambiguities	
		SC83	Language-form related issues *grammar errors *spelling/punctuation *reference to material without adding anything	

Table 2 – Critical thinking framework

The first category in the framework was References, i.e., bringing outside knowledge/experience (Guiller, et al., 2008; Newman, et al., 1995). This category was useful in coding the utterances in which students expressed their previous knowledge about writing an argumentative essay, and their ability to make use of the given guide-sheet. References to the given guide sheet with only minimal comments, however, concealed the underlying process of thinking. To track this difference, such utterances were counted under a subcategory. In the extracts below, examples for this category are shown.

"You all studied I think in your classes that a first paragraph must make the reader to read the … Convincing.. and reader must think "what's more" and then something like that."(SC10)

"First of all, the clarity of the main and supporting ideas are really good. (…) And apart from this, other main subjects, other paragraphs are good enough in terms of general, in general. And, relevance and coherence is very good, all the sentences are understandable, and language use is also very good, organization is a typical essay organization. It's also very good." (SC11)

The utterances that were not followed by a comment were not counted in this category because without a comment or expansion, references would be only recalling information.

Explicit statements of point of view / Reasoning / Justifying (C2)

The second category in the framework was "Explicit statements of point of view / Reasoning / Justifying" (Ennis, 1996; Facione, 1990; Guiller, et al., 2008;

Newman, et al., 1995). This category was useful in coding the utterances in which students expressed their agreement, disagreement, reasoning, justifying, and results of reasoning and/or evaluation. Utterances that were not expanded or justified were not counted in this category because it is not possible to know the underlying process of a minimal comment such as "I agree." or "It is good." In the extracts below, two examples for this category are shown.

"Firstly, you must think that use of internet than that Facebook. There are some advantages and disadvantages. We use Facebook but the time we use internet with Facebook is important I think. And it isn't a problem you used it in right way." (C2)

"I gave this example because, as you know, there are many pages in Facebook. Mmm, aaa.. many of them, maybe you don't know many of them. And you can get everyday a new different information through Facebook. So I use it to support my second paragraph." (C2)

Clarification (C3)

The third category in the framework is clarification (Ennis, 1996; Facione, 1990; Guiller, et al., 2008; Newman, et al., 1995), and it was divided into two subcategories: asking for a clarification and making a clarification. This category was useful in coding students' questions and answers. Short answers, such as "yes" or "no", were not counted in the making a clarification subcategory.

"You said the time is spent in Facebook is more important. Up to you, Facebook is useful or not?" (SC31)

"I mean one of the user of Facebook, ee sometimes just here is useful but, aaaa…using too much Facebook is waste of time. We can aa….we can.. we can use or waste our time. It changes." (SC32)

Analysis (C4)

The fourth category in the framework is Analysis (Ennis, 1996; Facione, 1990). This category was used to label the utterances in which students described or categorized a section in the essay mentioning its function, and the relationship between parts of the essay. Analysis is also included in the "identification of a problem" category. Therefore, if an analysis was made with the purpose of identifying a problem, it was not counted in this category. The following extracts are given as examples for this category.

"I like this part, you wrote this essay in terms of the students who don't like the literature classes and in terms of you. You make a contrast between students and your own side." (C4)

"I agree with you because this question makes reader think deeply on this issue. And you ask them some questions. You did not state your ideas clearly and you ask some questions to the reader. It trigger their wonder I think, and they can think about the essay more deeply while they are reading. In the next paragraph, you stated your ideas but ..aa… but.. aa… it is not related to first paragraph. You ask question but.. aa…in the body paragraph you, aa.. there is answer.. it does not create a problem because question is just to trigger wonder. (-their attention) Yes.. attention.. Again body paragraphs are supported with your answer, with your ideas, and I like the final paragraph, very clear and just summary of the essay." (C4)

Identifying a problem (analysis-evaluation) (C5)

The fifth category in the framework is Identifying a problem (Peter A. Facione, 1990; Kamin, O'Sullivan, Younger, & Deterding, 2001; Newman, et al., 1995). This category was divided into two subcategories to enable us to track the differences between the identifications of form/organization (SC51) and meaning/idea related problems (SC52). In some cases the identification of a problem and the solution offered for that problem intermingled in a single turn. In such cases, if the solution offered for that problem was explicit, it was counted in both categories C5 and C6 (offering solutions). If the solution offered was just the opposite of the problem and expressed by using the antonym of the word that was used to define the problem, it was counted only in category C5.

For example:

"The text is good, but when I read it, ee.. I get the opinion that, Facebook is a miracle that solves all the problems, because there is any negative things about the Facebook on your writing. **(…)**You don't say a negative thing about Facebook." (SC52)

"Conclusion, you written, the main ideas of the other paragraphs, …and it should have been much more summarizing. It should have been little bit more summarizing the main idea that you have about Facebook." (SC51)

Offering suggestions and/or alternative solutions (C6)

The sixth category in the framework is "Offering suggestions and/or alternative solutions" (Peter A. Facione, 1990; Guiller, et al., 2008; Newman, et al., 1995). This category was also divided into two subcategories to be able to track the differences between the suggestions/solutions for form/organization problems

(SC61) and meaning/idea related problems (SC62). As mentioned above, the suggestions that were not explicit enough to help solve the problem were not counted in this category, but they were considered as another way of pointing out a problem.

"Up to me, you can use some scientific facts about your topic of essay. And, you can use some specially person who are studying in this area, and you can use their words, their thoughts, and the other scientific tools like graphics or other tools. Very good for you because it gives the exact information to the reader if you use them." (SC62)

"In the first paragraph, you could have mention only the general situation and your own opinion, and continue. That's what I thought." (SC61)

Self Regulation/Disposition (C7)

The final category in the framework is Self Regulation/Disposition (Robert H. Ennis, 1996; Peter A. Facione, 1990; Newman, et al., 1995). This category was used to label the utterances which signified students' evaluations and corrections regarding their own work and their positive attitudes towards the comments of other group members. For example:

"(*about his own writing)* She is talking about the writing, even if there is no grammar mistake, we are talking about if the writing is coherent or not, if it is understandable, and its effect on the reader. Such a long and complex sentence may affect the reading speed or attention of the reader, perhaps it distracts the reader." (SC71) (translated by the researcher)

"So, what would you offer me to do for improve my supporting ideas? Paragraphs?" (SC72)

As the second extract illustrates, some of the utterances that were counted in this category could also be considered as using the task material, because some of the invitations for comments came directly from the feedback guide sheet. However, as agreed by the coders during negotiation, because students did not have to invite criticisms or comments, such direct invitations were counted in this category.

Not Critical Thinking

The final category in the framework was named "Not Critical Thinking" (Robert H. Ennis, 1996; Huang, 1996; Newman, et al., 1995). This category was especially helpful in deciding whether an utterance was critical thinking or not. This category was divided into three subcategories to be able to track the false critical thinking (SC81), negative dispositions (SC82), and language related comments (SC83).

"Yes, maybe it could be, but still it is a little specific. Maybe if he hold it, it would fit. Or maybe it is too explanatory, or maybe it is too short, perhaps that is the reason, maybe. SC81" (translated by the researcher)

The extract above, for example, illustrates a confused or ambiguous utterance. Such utterances necessitated reading the student's essay to decide whether a comment made sense or not.

Undecided

Six units of analysis were coded differently by the two coders. Three of these were counted in a critical thinking category by one of the coders, but not by the other coder. The other three were disagreements about the categories.

One example for these undecided utterances is a disagreement about the categories C2 and C4:

"Apart from that the second paragraph… I find the second body paragraph efficient, I also find the introduction and the ideas that were supported adequate. And in the end the idea is summarized well, very well, and its length is pretty good for a conclusion paragraph." (translated by the reasearcher)

The researcher did not think that this utterance comprised an explicit analysis process, but it was rather an explicit statement of the results of an evaluation (C2). However, the second coder considered this utterance as an example for the analysis category (C4) because it contained information about the functions of the parts of an essay.

Another example for the undecided utterances is about the categories C5 (identifying an error) and C6 (offering solutions).

"This is very good, this relationship between the title and essay. But I did not like this part, your topic sentence aren't a full sentence but you wrote the topic sentence implicitly, I think. But if you wrote the those, the essay would be more meaningful and more easy to understand. [+51] /61/

The researcher considered this utterance as including both categories of C5 (identifying an error) and C6 (offering solutions) as the student considered an implicit topic sentence as a problem. However, the second coder considered that the whole unit was uttered with a purpose of making a suggestion because an implicit topic sentence could not be considered as a problem.

After labeling the utterances, the utterances that included critical thinking were counted and classified according to their categories to be able to compare the

amount and nature of critical thinking in two languages. The undecided utterances were not included in the analysis.

Total critical thinking and language of discussions.

The researcher and the second coder agreed on 424 units of analysis. Of these, 249 utterances were in the L1 (Turkish), and 175 utterances were in the L2 (English).

A total of 195 utterances (45.99%) were coded as Critical thinking. As Figure 1 shows, this included 121 utterances in the L1 (utterances per participant M=15.12), and 74 utterances in the L2 (utterances per participant M=9.25). This difference is statistically significant ($t(7)= 2.42$, $p<0.05$), and indicates that the students produced significantly more critical thinking in their L1 than in their L2. This result shows that there is a quantitative difference between two languages, which answers the first research question.

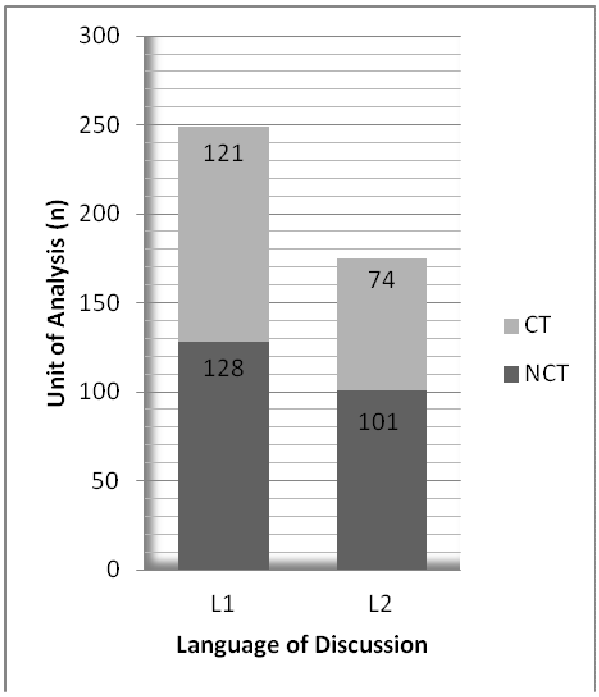


Figure 1 – Total distribution of the units of analysis

However, as can be seen in *Figure 1,* the total number of units is also significantly more in the discussions in L1 (total=249, M=31.37) than the discussions in L2 (total=175, M=21.62) ($t(7)=3.55$, $p<0.01$). That is, students both talked and produced critical thinking more in their L1. Indeed, there may have been more Critical thinking in L1 just because there was more L1 speech overall. At this point, it is important to consider the proportion of talk that was critical thinking in each language. Therefore, the percentages of the utterances that were coded as Critical thinking in two languages were calculated separately. 48% of the total utterances in the L1 and 42% of the total utterances in the L2 were coded as critical thinking. Statistically, although students seemed to have produced slightly more Critical thinking in the L1, the difference between the percentages was not significant, $\chi^2(1, N = 424) = 1.65$, $p > 0.05$. This may mean that students produced more critical thinking in the L1 simply because they talked more overall than they did in the L2.

The Critical Thinking categories with regard to the language of discussions

To find answers to the second research question about the qualitative differences, the researcher analyzed the amount and distribution of the critical thinking categories. The distribution of the categories to the total critical thinking units can be seen in Figure 2:

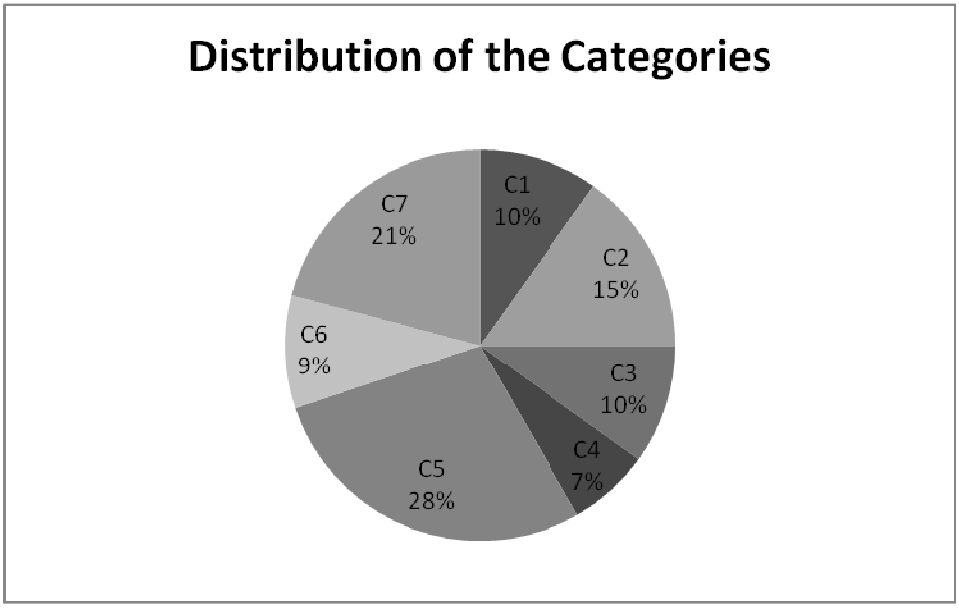


Figure 2 – Total distribution of the critical thinking categories

As can be seen from Figure 2, C5, C7, and C2 are the highest three categories, and they are followed by the categories C1, C3, C6, and C4. In other words, participants mostly identified errors, stated their opinions, and they showed a disposition towards critical thinking. They used references and clarifications in their discussions in moderate amounts, and they rarely analized without identifying a problem, respectfully.

To be able to track the qualitative differences between the L1 and the L2, the distribution of the categories was explored in total and within the groups. Regarding the results about the distribution of the categories, Figure 3 and Figure 4 display interesting findings.

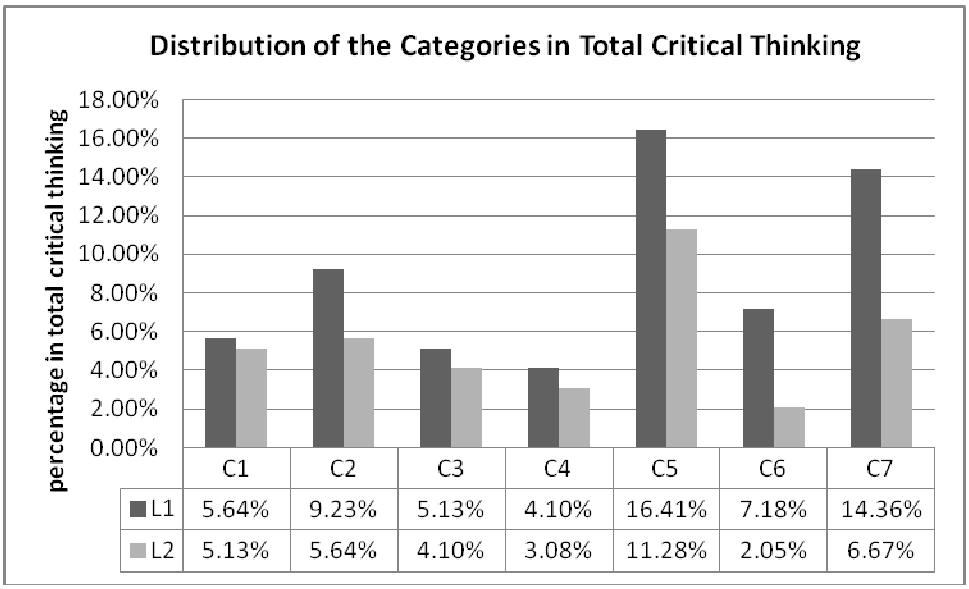
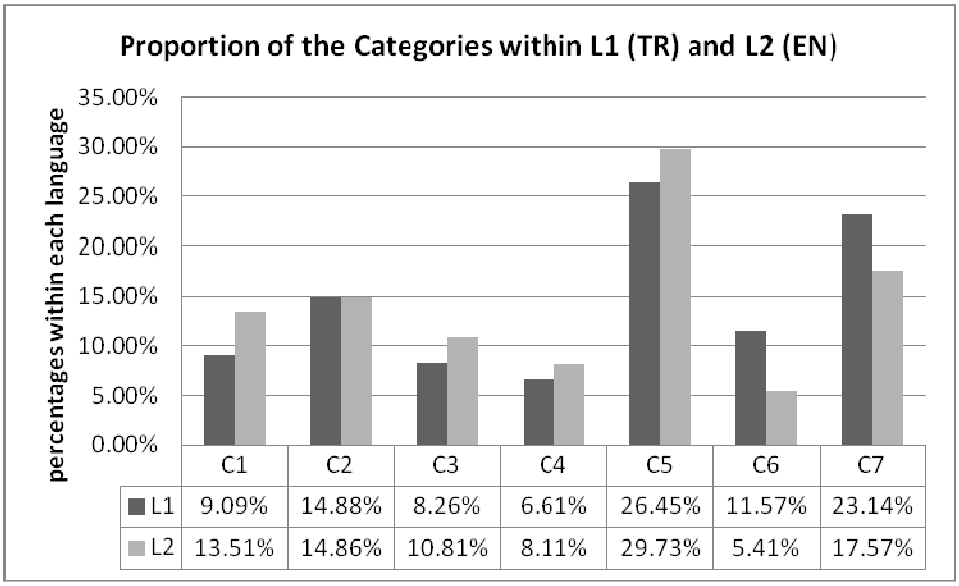


Figure 3 – Distribution of the categories in total critical thinking units

In Figure 3, the proportions of the categories in the total number of units that were coded as critical thinking are given. The patterns in Figure 3 show that the distribution of categories in two languages are, indeed, quite similar. In both languages C5 (identifying problems), C7 (disposition), and C2 (stating opinions) are the highest three categories, and C1 (referencing), C3 (clarification), and C4 (analysis) are the lowest three categories. This similarity may support the above suggestion that the significant difference between the L1 and L2 may have resulted from the fact that the students talked more in their L1. However, category C6 (making suggestions) changes this pattern of similarity, being the fourth highest category in the L1 but the lowest category in the L2. Moreover, even if they do not change the pattern, the categories C2 (stating opinions), C5 (identifiying problems),, and C7 (disposition), i.e. the three highest categories, differ largely between the languages with regard to the amount these were used, too. Among all these, the differences between the languages in categories C2 (stating opinions) and C6

(making suggestions) were found to be statistically significant. (C2: $t(7)=2.49$, $p<.01$; C6: $t(7)=2.22$, $p<.05$)

In order to eliminate the differences which resulted from the surplus amount of talk in the L1, the researcher also calculated the proportions of categories within each language. Figure 4 shows the distribution of the categories within the total critical thinking utterances in each language. It is important to note that Figure 4 does not show the differences between the quantities in each language, but rather shows the proportions of critical thinking types within each language.



	C1	C2	C3	C4	C5	C6	C7
L1	9.09%	14.88%	8.26%	6.61%	26.45%	11.57%	23.14%
L2	13.51%	14.86%	10.81%	8.11%	29.73%	5.41%	17.57%

Figure 4- Proportion of the categories within the L1 and L2

When the distribution of critical thinking categories is calculated *within* the languages, unlike the pattern in Figure 3, two categories (C6 and C7) change the pattern of distribution. That is, when we look at the total amounts (Figure 3), all categories except for C6 are more frequent in the L1, and the categories display a similar pattern of distribution. However, in Figure 4, the distribution of the categories differs in that four categories are more prominent in the L2, and both C6 and C7 are

still more prominent in the L1. That is, when we examine the proportions within each language separately, eliminating the quantitative difference between the languages, we have a different pattern of distribution.

To summarize, stating opinions (C2) and offering solutions (C6) are significantly higher in L1 when the proportions of total critical thinking in each group; and within languages, offering solutions (C6) and disposition towards critical thinking (C7) are in higher proportions within L1 than they are within L2. This may indicate that there is a qualitative difference in the make-up of critical thinking in the two languages, especially in these categories.

The differences between the above three categories might have resulted from the ease of using one's native language in expressing justified opinions (C2), giving explicit suggestions (C6), or building rapport (C7). Another factor regarding the difference between the discussion groups which might have had an effect on these numbers will be explored in the next section.

Critical Thinking with regard to the discussion groups

Difference in the nature of discussions between the two groups is worth mentioning as a factor that may have had an effect on the differences observed between the languages. It is possible that the ordering of the discussions may have had a crucial effect on the shaping of the discussions, which in turn affected both the qualitative and quantitative results. It may be helpful to remind the reader of the order of the discussion sessions at this point: Group A started to discuss in the L1and continued in the L2 in the following session. Group B, on the other hand, started their discussions in the L2, and continued in the L1 (see Table 3).

Sessions	Groups	Languages	Duration	Turns	Words-Units
1	A	L1	23’	157	2632 – 138
2	A	L2	16’	112	1439 – 87
3	B	L2	23’	71	2043 – 88
4	B	L1	23’	76	2445 – 111

Table 3 – Physical description of the discussions

With regard to the physical nature of the discussions, first of all, the discussions in the L1 lasted about the same amount of time -23 minutes- in both groups. Whereas, in the L2, the discussions of Group A lasted about a total 16 minutes while Group B continued for approximately 23 minutes. This difference between the time taken to discuss the essays may have resulted from Group A’s following a similar discussion pattern to the one they had in L1 and the students’ general agreement upon the comments that had uttered before in L1. Whereas in the L1, Group A spoke slightly more (2632 words) than Group B (2445 words), in the L2 these lengths were reversed, Group B 2043 words and Group A 1439 words. It may be possible that because Group B had their first discussion in the L2, they may have produced more talk in longer discussions than Group A did in the L2. Another difference in the physical nature of the discussions is that the number of turns in Group B (n=71; n=76) remained lower in both languages in Group B. The lower number of turns regardless of the languages of the discussions in Group B can be explained by the difference in the shaping and tone of the discussions.

As the researcher did not intervene during the discussions, the shaping and tone of discussions were created by the students naturally. The two groups, starting

in two different languages shaped the discussions differently, and this created a different tone in two discussions. One of the major differences in the nature of discussions between the groups was that Group A discussed the essays through multiple dialogues, and they used the given peer feedback guide more independently. Group B, on the other hand, discussed each paper in longer turns, which lead to a lower number of turns in Group B. In fact, the students in Group B can be said to have discussed the essays in a more formal and distant way than Group A did. Students in Group B tended to repeat the comments of the initial speaker with almost the exact wording. Moreover, they made more direct references to the guide sheet, using the same words in it.

This difference in the shaping of the discussions might have resulted from the ordering of the discussions. Starting their discussions in L2, the students in Group B may have needed more support from the guide-sheet, and they may have had difficulty in building rapport, and hence a cooperative relationship, within the group. Indeed, to the observation of the researcher, students had a rather tense interaction, perhaps because of the initial absence of the safety of their L1 pragmatics. For example, students used “you should have done” pattern very frequently, which may have led to defensive attitudes.

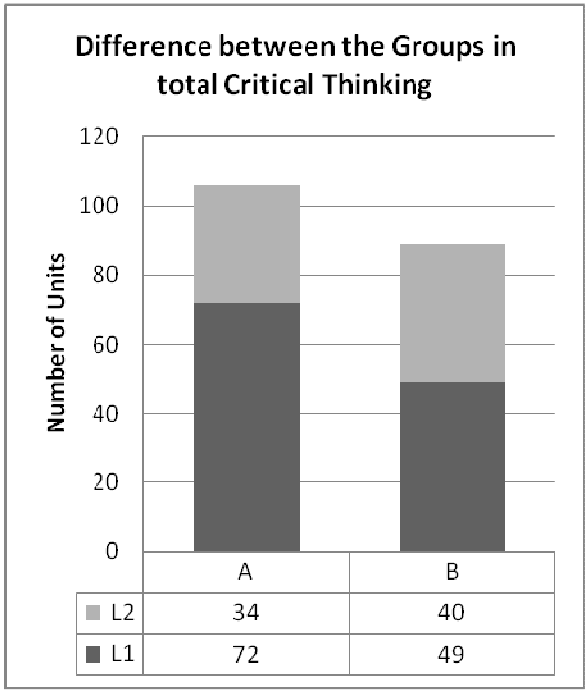


Figure 5- Differences between the groups in total critical thinking

There were also quantitative differences between the discussion groups. Regarding the total amount of the utterances that were labeled as critical thinking, as shown in Figure 5, Group A produced more critical thinking (n=106, M=26.50), most of which was in their L1 (n=72). On the other hand, Group B produced less critical thinking in total (n=89, M=22.25), but more critical thinking in the L2 (n=40) than Group A did (n=34). The difference of the total critical thinking units between the groups is not statistically significant ($t(6)=0.55$, $p> .05$). However, the distribution patterns of the critical thinking categories in languages differed between the two groups. Figure 6.1 and Figure 6.2 shows the distribution of categories and total amount of critical thinking in the groups separately.

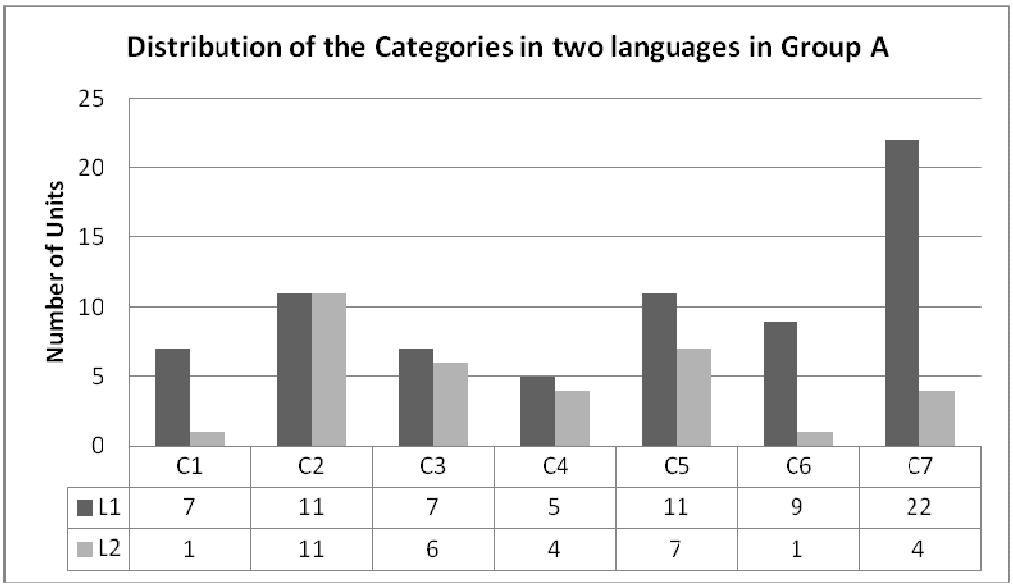


Figure 6. 1- Distribution of critical thinking categories in Group A in L1 and L2

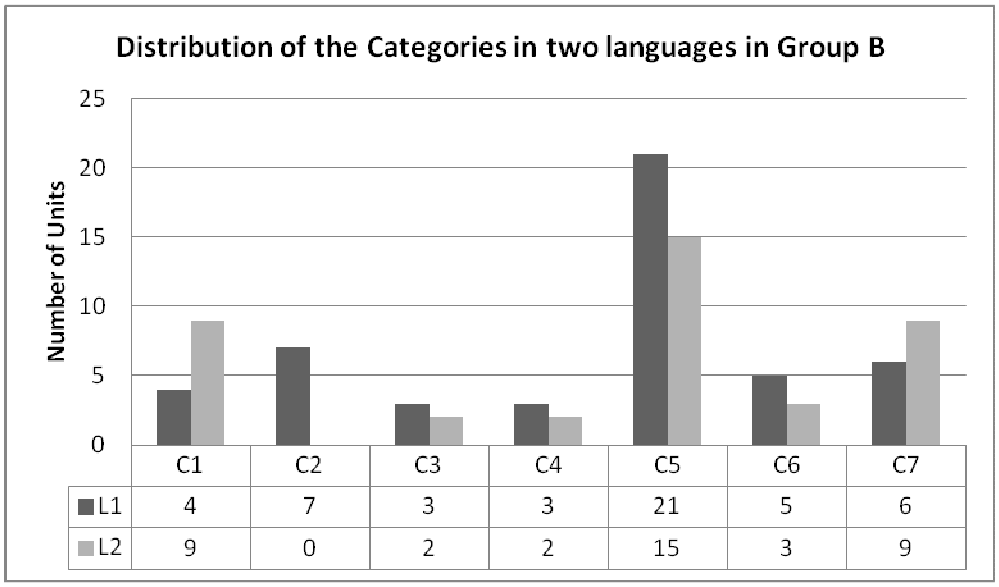


Figure 6.2- Distribution of critical thinking categories in Group B in L1 and L2

When the units in both languages are calculated, C1 (referencing) and C5 (identifying a problem) are higher in Group B, and all the other categories are higher in Group A. The highest three categories of Group A are C2 (stating opinions), C7 (disposition), and C5 (identifying a problem). The highest three categories of Group

B are C5 (identifying a problem), C7 (disposition), C1 (referencing). It is very interesting that no utterance was coded as C2 (stating opinion) in L2 discussions of Group B (see Figures 8.2 and 9.2). This raises questions about the adequacy of students' language skills related to stating justified opinions in L2. Another difference is that Group A produced fewer utterances in category C5 (identifying a problem) in both languages. When these differences are taken into consideration, the quantitative difference between the languages could also be linked to the qualitative differences between the groups. For example, the fact that there is no utterance in category C2 (stating opinions) for Group B in the L2 may have affected the total amount of critical thinking for that language.

To see the relationship between the *total* distribution of critical thinking types in the two languages and the distribution of critical thinking types in two languages *within groups*, the proportions of categories in each language for each group were also calculated in order to eliminate the difference which resulted from the higher amount of critical thinking in Group A (e.g. out of the 34 critical thinking units which Group A produced in L2, 2.94% were C1(referencing), 32.35% were C2 (stating opinions); see Figures 7.1 and 7.2). It is important to notice that these figures do not show the differences between the quantities, but the proportions of the categories in two languages for the two groups. In fact, the following figures can be seen as the sub-components of Figure 4, which shows the distribution patterns within two languages. Figures 7.1 and 7.2 help us to explore if -and if so, how- the group differences have affected the overall difference.

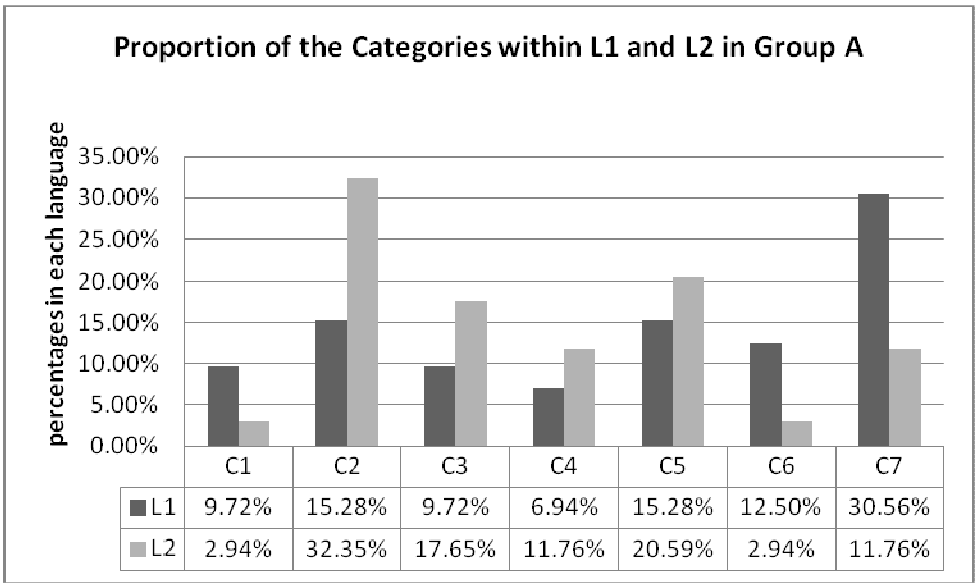


Figure 7. 1- Proportion of critical thinking categories in Group A in L1 and L2

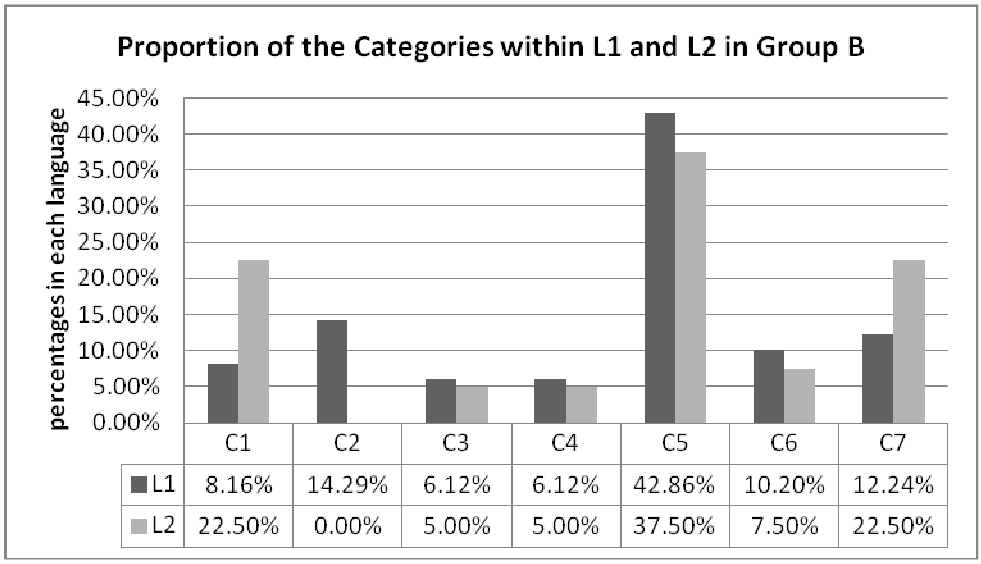


Figure 7. 1- Proportion of critical thinking categories in Group B in L1 and L2

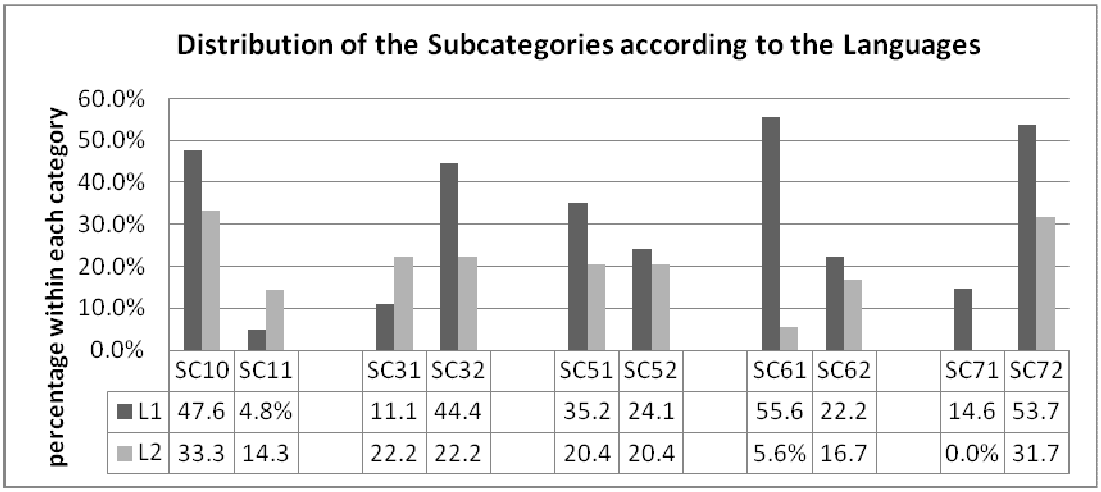
When these figures are examined and compared to Figure 4, it can be observed that the higher percentages of C1 (referencing) and C5 (identifying errors) are affected by the performance of Group B. Moreover, the higher percentages of C6 (making suggestions) and C7 (disposition) in the L1 are affected by the performance of Group A. In addition, it seems that C2 (stating opinions) is equally distributed in

two languages in Figure 4. However, when we examine Figure 7.1 and 7.2, it is clear that the L2 percentage of C2 (stating opinions) is secured by the performance of Group A.

Subcategories

For an analysis of the qualitative differences between the critical thinking displayed in two languages, the researcher also examined the distribution of the subcategories. When the total numbers are taken into account, first of all, SC10 was found to be higher than SC11 (see figure 8). This means students referred to their previous knowledge more than the guide-sheet in general. Secondly, SC32 is higher than SC31, meaning that there is more clarification than clarification questions. In addition, SC52 (identifying idea-related problems) is slightly higher than SC51(identifying organizational problems). On the other hand, SC61 (offering solutions for organizational problems) is higher than SC62 (offering solutions for idea-related problems). In fact, in general, there is a clear discrepancy between the utterances that identify a problem and the ones that offer solutions in favor of the former because the total numbers for each differ considerably. Finally, SC72 (accepting comments or criticisms) is considerably higher than SC71 (self-criticism).

After this overall picture, the difference between the languages and groups with regard to the subcategories will be discussed. It is important to note here that the numbers used to reach the following findings are calculated by taking the proportions of each subcategory in the total number of utterances in that particular category. Figure 8 shows the distribution of the subcategories between the two languages.



	SC10	SC11	SC31	SC32	SC51	SC52	SC61	SC62	SC71	SC72
L1	47.6	4.8%	11.1	44.4	35.2	24.1	55.6	22.2	14.6	53.7
L2	33.3	14.3	22.2	22.2	20.4	20.4	5.6%	16.7	0.0%	31.7

Figure 8- Distribution of the subcategories in the L1 and L2

As Figure 8 shows, the distribution of the subcategories differ between the languages. Firstly, SC10 (references to previous knowledge) is higher than SC11 (references to task material) in both languages. This indicates that students referred to their previous knowledge more than to the peer feedback guide sheet. Secondly, SC31 is lower and SC32 is higher in the L1, which means that students asked fewer clarification questions and explained more in the L1. Another difference is that both SC51 and SC52 (identifying organization/form and idea-related problems) are higher in the L1. Likewise, SC61 and SC62 (suggestions to solve organizational/formal and idea-related problems) are higher in the L1. In addition, in the L1, SC51(identifying form/organization related problem) and SC61 (offering suggestions to solve organizational/formal problems) are both higher than SC52 (identifying idea related problem) and SC62 (offering suggestions to solve idea-related problems), respectively. This suggests that, in general, students paid more attention to structural problems than to idea-related ones in the L1.

One of the most noteworthy differences between L1 and L2 is that the subcategory SC61 (offering suggestions to solve organizational/formal problems) is considerably low in the L2. Another is that the subcategory SC71 (self-criticism) existed only in L1 in both groups, and SC72 (welcoming criticisms) is also higher in the L1. These two differences might have affected the results about the proportion of the categories within languages. That is, the reason that C6 (offering suggestions) and C7 (disposition) were in low proportions in the L2 can be explained by the language related differences between their subcategories.

Groupwise, the distribution of the subcategories is also different. To understand this difference, the researcher examined the difference between the two languages within the groups. The following figures (Figure 9.1, and 9.2) show the distribution of the subcategories between the languages in each group. These can be considered as the sub-components of Figure 8.

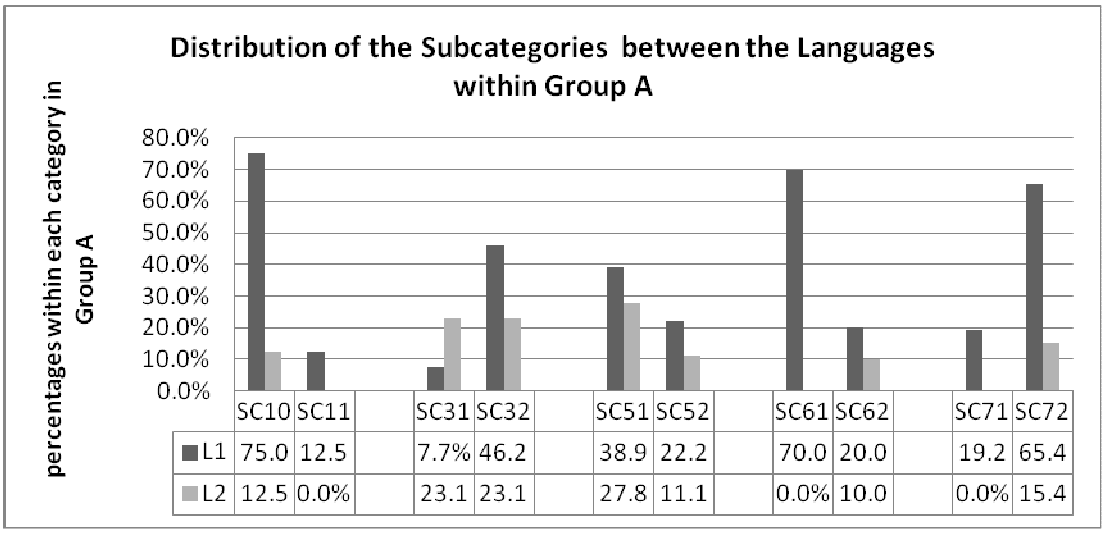


Figure 9. 1- Distribution of the subcategories within Group A in L1 (TR) and L2 (EN)

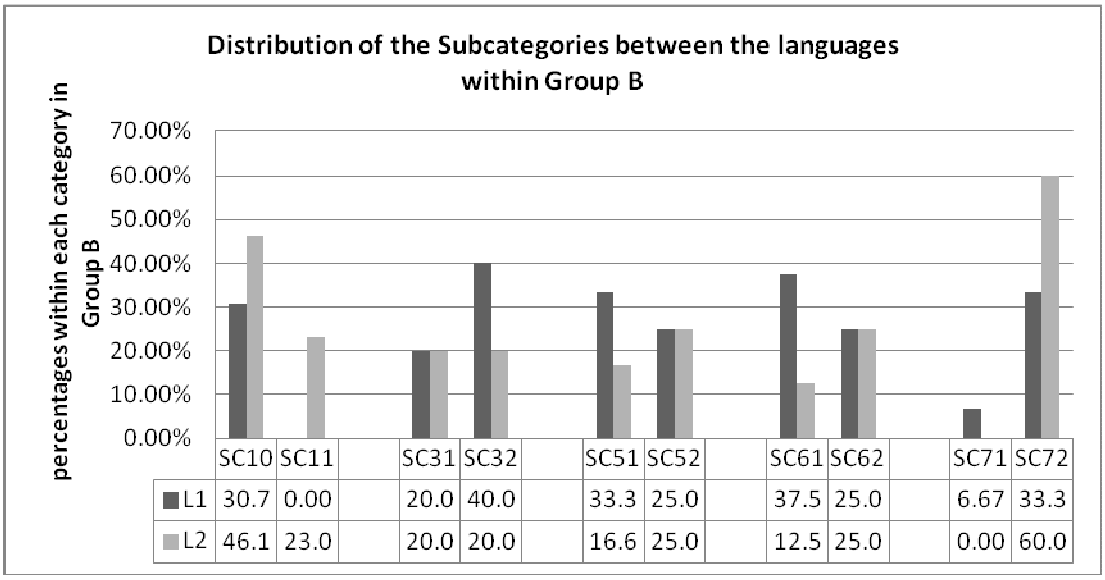


Figure 9. 2- Distribution of the subcategories within Group B in L1 (TR) and L2 (EN)

A comparison of the distribution of the subcategories between the two languages within each group displays interesting findings. Among these, it is noteworthy that the categories SC10 (references to previous knowledge) , SC11 (references to task material), and SC72 (disposition) were higher in the language that started the discussion in both groups. Another difference is that, in Group A, which started the discussions in the L1, all subcategories -except for SC31 (asking for clarification)- are higher in the L1. On the other hand, in Group B, which started the discussions in the L2, SC31, SC52, and SC62 are equal in the L1 and the L2. This might support the idea that the order of discussions have had an effect on the qualitative differences.

Conclusion

In this chapter, the quantitative and qualitative analyses of the discussions were presented. In chapter five the findings of the study and the pedagogical

implications along with the limitations and suggestions for further studies will be discussed.

CHAPTER 5 - CONCLUSION

Introduction

This study was designed to explore the differences between the critical thinking displayed in the native and the second language during peer feedback discussions. The researcher has attempted to answer the following questions:

1. Is there a quantitative difference between the critical thinking displayed in the L1 and the L2 during peer feedback discussions by Turkish university EFL students?
2. Is there a qualitative difference between the critical thinking displayed in the L1 and the L2 during peer feedback discussions by these students?

This study was conducted at Anadolu University with high-proficiency EFL students on a voluntary basis after a critical thinking test. Eight high-scoring students participated, and two groups were formed with four students in each group. These students had taken advanced writing courses and practiced peer feedback in these courses. Still, they were given a simple feedback guide sheet and training. These groups of students discussed each other's essays that they had written previously upon the researcher's request on two different topics. Each group had discussions in L1 (Turkish) and L2 (English), in different orders. The researcher made no interventions. The discussions were audio- and video-recorded, and transcribed for a detailed analysis. The transcriptions were coded according to a critical thinking framework that was prepared by the researcher. The findings were analyzed for the

quantitative and qualitative differences between the critical thinking expressed in the two languages.

This chapter includes a discussion of the research findings concerning the research questions and the relevant literature, the limitations of the study, the pedagogical implications derived from the results and suggestions for further studies.

General Results and Discussion

As with previous studies in this area (Guiller, et al., 2008; Newman, et al., 1995), identifying separate categories of critical thinking turned out to be a challenging task. The complex and overlapping nature of critical thinking made it extremely difficult and open to interpretation to assign a single distinct category to spoken utterances because one utterance frequently embodied more than one type of critical thinking. The researcher, after many attempts to code with different types of frameworks, has come to find that using a framework the categories of which were defined by purpose-based classifications rather than theoretical definitions of sub-categorical terms enabled a more reliable analysis as well as being easier to interpret and more functional. Definitions of the terms that are accepted as the constituents of critical thinking proved to be too abstract to track them in spoken utterances which frequently embodied more than one subcategory in an overlapping manner. Using a purpose-based classification, i.e. tracking the ultimate aim of meaning units, made it easier to see these types within a frame of purpose, although one category could include more than one type of critical thinking (such as, identifying an error -C5 including analysis, synthesis, and evaluation). In this study, using a purpose-based classification was considered to be more convenient and useful leading to more

tangible results to draw implications from, rather than grouping data according to theoretical definitions of the terms that referred to separate types of critical thinking.

The quantitative difference

One of the major findings of this study is that the total amount of critical thinking that was produced in L1 was significantly higher than that in L2. However, such a statement of this finding may be misleading because the total amount of talk was also higher in L1. This is further supported by the distribution of the categories, as, except for C6 (offering solutions) and C7 (disposition - self regulation), the distribution of the categories was found to be similar within the two languages, and in general all categories (including 'non-Critical thinking') were produced more in L1. In fact, the interpretation of the results differs depending on the point of view. If the basic concern is the total amount of critical thinking, the findings suggest that in L1 critical thinking is produced considerably more than it is in L2. However, if the basic concern is the percentage of the critical thinking utterances to the total number of utterances in the languages used, then the findings suggest there is not much difference between the two languages.

A previous study (Tarakçıoğlu, 2008) that explored the amount of critical thinking in spoken discourse of classroom discussions has found that 45% of the total talk contained critical thinking. In this study, 48% of the L1 discussions and 42% of the L2 discussions were coded as critical thinking. The similarity in these percentages may suggest that, in student discussions that invite critical thinking, almost half of the talk can be expected to contain critical thinking. However, to the knowledge of this researcher, there are no other studies in the literature to make further comparisons.

The qualitative differences

Regarding the qualitative analysis, the researcher analyzed the distribution of the critical thinking categories in the two languages. To track the differences, the researcher has examined the distribution of the categories and subcategories of the critical thinking framework across the languages and the groups. The similar distribution of the frequencies of the categories between the two languages could suggest that students followed similar patterns of discussions in both languages. However, a detailed analysis of the categories within languages and within groups suggested that there were qualitative differences.

Findings regarding the overall picture of the distribution suggests that C5 (identification of an error) is the highest category in both languages, and C4 (analysis) and C6 (offering solutions) are the lowest. Regarding C4 (analysis), it is important to mention that C2 (Explicit statements of point of view, Reasoning /justifying) and C5 (identification of an error) also included analysis. This explains the reason behind C4 (analysis) being the lowest category, and indicates that participants basically analyzed to identify errors or make comments. In fact, it is unsurprising that students went further to evaluate or to identify an error after an analysis, and this exemplifies the fact that, even though it is possible to define the subcategories of critical thinking distinctly in theory, in spoken discourse critical thinking manifests itself in chains of thoughts that include more than one subcategory directed to a purpose. Moreover, it appears from this discussion that a hierarchical categorization, i.e. placing subcategories (such as stating point of view or identifying errors) under one category that is broader (such as analysis), could have led to a clearer analysis. At present it seems that students were not engaged

much in analysis because of the low frequency of C4 (analysis). Classifying C2 (stating opinions, reasoning, justifying) and C5 (identifying errors) under C4, such that occurrences of both C2 and C5 would also have counted as occurrences of C4 would have prevented the misleading impression that students did not analyze.

Regarding the most frequent category, it is unsurprising to find C5 (identifying an error) as the highest category because the discussions aimed to give feedback. In the present study it seems that "identifying errors" was especially prominent in L2 discussions. Although the participants were reminded during the training sessions that after identifying an error it is necessary to go further to help solve the problem, and offer detailed solutions, this category (C6) remained very low, especially in the L2. Moreover, most of the suggestions to solve the problems were directed to structural problems in the essays. In addition, there were no utterances from C2 (explicit statements of point of view/reasoning/ justifying evaluation) in L2 for Group B, which meant the evaluations made were not reasoned or justified.

When the findings are considered together, it seems that even though students were able to support their criticisms based on previous learning and experiences (C1), they failed to state justified opinions and evaluations (C2), or to construct solutions for the problems they detected (C6) in the L2. In spoken discourse, when students do not have much time to construct solutions and/or justified evaluations, it seems that the use of L2 added to the challenge. Basically, in a speaking activity with a high potential of triggering anxiety, giving oral feedback in L2 in the limited time of the discussions may have lead the students to focus on identifying errors, which

can be considered a less challenging task compared to construction of solutions or justified opinions.

Wang (2003) reports several studies that are in line with her own study, in which writers with differing proficiency levels switch to thinking in their L1 while or before writing, especially to generate ideas or monitor their work, which had positive effects on improving the quality and quantity of their ideas and the organization of their compositions. Although the genres are different and the present study is investigating the thinking process in spoken discourse, the findings are considered to be in line with Wang's, as students produced more critical thinking, especially in the categories C2 (stating opinions), C6 (making suggestions), and SC71(self-criticism) in the L1, i.e. constructing justified opinions and solutions, and self-monitoring.

In the previous chapter, differences between the groups were presented as a factor that had an effect on the results. The basic differences between the two groups were that Group A produced more utterances in C2 (stating opinions), C6 (making suggestions), and C7 (disposition) in the L1, which was the starting language. On the other hand C5 (identifying errors) almost dominated Group B's discussions in both languages, and there was no utterance coded as C2 (stating opinions) in L2, which was the starting language for this group.

As a factor, the ordering of the discussions may have had a crucial effect on the shaping of the discussions, which may in turn have affected both qualitative and quantitative results. Group A, as stated in the previous chapter, started to discuss in the L1 and continued in the L2 in their following session. Group B, on the other hand, started their discussions in the L2, and continued in the L1 in their following session. The researcher observed during the discussions that the interaction between

the students in Group A was shaped in a more natural way, and they approached each other's ideas in a more tolerant way. The interaction was more direct and less formal. On the other hand, students in Group B discussed the essays in a more formal way, and in a distant manner.

Many scholars (Facione, 1990; Facione, Sanchez, Facione, & Gainen, 1995) have emphasized the importance of disposition toward critical thinking, which is defined by Facione (Giancarlo & Facione, 2001) as "a person's inclination to use critical thinking when faced with problems to solve, ideas to evaluate, or decisions to make", and which included attitudes and affective dispositions. C7 was the category to track utterances that included positive attitudes towards detecting and fixing problems, positive attitudes towards being criticized, and self-reflection. In both groups, C7 was found to be higher in the first language used. This may mean that students needed these types of remarks at the beginning of their conversation to establish rapport and a positive atmosphere, given that the task required them to give and receive critical feedback. In addition, Group A students' initial use of L1 language skills with the security of common L1 pragmatic futures, and Group B students' initial use of L2 language skills without such a secure zone may have affected the nature of the discussions. The fact that Group A produced C7 as the highest category while Group B produced C5 may have resulted from the different order of the languages of discussions.

At this point, it may be necessary to go deeper into qualitative details to track the interactional patterns that may have created this difference. For this purpose, the researcher examined the discourse of the discussions. Firstly, it was observed that Group A used a "group language". That is, in their utterances they frequently used

first person plural as the subject pronoun. For example, “it is clear, *we* understand” (student C, in L1[1]), “we are talking about the consistency, clarity, and its effect on reader...” (Student A, in L1), or “we have to support this in the second paragraph” (Student D, in L1). Moreover, while working together on an essay, they depersonalized the writer by using such remarks as “what does the writer argue, what does the writer want to express” (in L1) or passive sentences such as “they [two paragraphs] could have been combined” (in L1) even though the writer was among them. In this way, they avoided putting the blame on the writer for making mistakes. Also, they didn’t play the authority figure that would judge the essay, but rather acted as a friend presenting opinions at the same level. Finally, they used self-reflection, which is present only in the L1, more than the Group B students did. This is important considering the point that peer feedback is also aimed at encouraging students to have a critical eye on their own work (Stoddard & MacArthur, 1993; Cheng & Warren, 1996, cited in Hyland & Hyland, 2006b).

In the discussions of Group B, the members started the discussions with a list of errors, and their utterances were dominated by a discourse that included utterances like “you didn’t decide your side… and this is a proof I think” (student B, in L2), “your supporting ideas are not sufficient I think” (student A, in L2), “you should have specified some subjects” (student D, in L2). Basically, the discussion was error oriented, and judgmental. Moreover, they behaved like authority figures to each other, and made unjustified judgments about their peer’s essays such as “This is a big mistake”, (student A, in L1), “Frankly, I didn’t like the final paragraph at all, because there is no technique” (student B, in L1). The comments that they made on each

[1] All L1 utterances were translated by the researcher.

other's essays were mainly based on references to lessons and the Peer Feedback Guide Sheet instead of their own ideas or justifications. Adding to these the fact that students repeated the errors mentioned by the previous speaker in their turn, establishment of a cooperative atmosphere failed, and this created a tense interaction among the members, which lead to resistance to listen to more of a comment or to discuss an idea in detail.

King (2002, p. 37) claims that "[w]hen students are exposed to alternative perceptions and conflicting views, and are put in such a state of cognitive imbalance, they are motivated to continue the discussion in order to resolve the cognitive conflict." However, in the case of Group B, disagreements lead to communication blocks. In Group B, listing one error after another did not leave much room for suggestions, solutions, or negotiations. In fact, students tended to avoid talking about ideas, e.g. "I don't want to criticize your opinions and all" (Student C, in L1), or "I don't agree but I respect your opinion" (Student B, in L1). Even a threat/joke followed one of the discussions that included disagreement: "I'll see you when we're out" (student B to student D, switching to L1 after an L2 discussion, meaning –as a joke- there will be a fight after the sessions, when they are out). Although there were not as many disagreements in Group A, a justification or explanation of a member encouraged the other members of the group to add more ideas to the discussion. At one point during the L1 discussions, two of the students were surprisingly pleased when one of them changed her mind after reading the other student's opposing ideas about Facebook :

"Student C: In fact, that you defended the opposite idea, and when you read this,

Student D: [nodding in an excited manner, in an attempt to complete Student C's sentence] yes yes, that I was convinced…

Student C: and that you were convinced, is very nice…

Student D: [happily] Yes yes, very nice."

Consequently, in accordance with the ideas of several scholars (Peter A. Facione, 1990; Facione, et al., 1995), disposition in general and a positive attitude in particular had a great role in determining the production of critical thinking in these discussions. Hyland & Hyland (2006b, p. 97) stated that "peer responders working in their L2 may lack communication and pragmatic skills for successful interaction", especially if they come from different cultural backgrounds, and this may affect the nature and success of the discussions. Even though the students were from the same country, and hence supposedly similar cultures, building a successful cooperative interaction may also be highly related to the skillful use of the language.

A study the results of which can be compared to the present study is by Huang (1996). In her study about the qualitative differences between L1 and L2 in peer response groups, Huang (1996) has reported that when L1 is used, the focus was basically on errors of language, while when L2 is used, the focus shifted towards content and the organization of ideas. In the present study, when the subcategories were examined for C5 (identifying errors) and C6 (offering suggestions), it was observed that students paid more attention to structural errors than to idea-related ones in the L1. Therefore, the results of these two studies seem to be in line. Another similarity between the findings of these studies was that students produced more specific comments in their L1, while very general or vague comments limited the effectiveness of the L2 discussions. Considering the fact that C2 (explicit statements

of points of view, reasoning, justifying) was significantly higher in L1 than in L2, the findings of this study also suggest that the L1 use generated more specific comments.

Huang also reported in her study about the use of L1 and L2 in peer feedback in writing courses that the L2 groups were more supportive and polite to each other while L1 groups were not as supportive but more critical, which created a negative atmosphere for interaction. This finding is in conflict with the findings of this study. Therefore, individual and cultural differences emerge as another factor that may have affected the results of both studies. Attitudes or personalities of the individuals in the groups, regardless of the language being used, could have affected the overall tone of the discussions, which in turn affected the success of the discussions. Based on her observation during the discussions, however, in present study the researcher believes that language was a stronger cause of the differences.

Another factor that may have had an effect on the nature of the discussions is the previous learning experiences of the students involved. Huang (1996), being the teacher of the participants in her study, claims that students in the L2 group were highly imitative of their teachers' language, and that this also affected the tone and focus of the discussions. It is possible that, in the present study students were also following their teachers' language and feedback focuses. Indeed, Anadolu University EFL writing courses tend to focus on the structural aspects of students' works, rather than in depth reasoning of the ideas expressed. In the present study, therefore, while giving feedback to their peers, students may have mirrored the feedback they had previously received.

Implications

Critical thinking has been among the goals of EAP courses and there can be more than one way to achieve this goal. Being a skill, practice is the key to this achievement and language choice in peer feedback discussions seems to have an important role in the amount and quality of critical thinking practice.

Findings of the present study suggest that language creates a certain difference in the production of critical thinking in these discussions. This difference is basically the greater amount of total talk in the L1, and a skillful use of the first language for pragmatic and communication purposes. The ease of using one's L1 in discussions enabled students to make more sentences with more specific points, and this led to more critical thinking in the L1. Moreover, the common pragmatic knowledge of the L1 may have secured a positive cooperative atmosphere for the group who started talking in their L1. However, this should not overshadow the fact that students were also able to produce critical thinking in the L2, with an insignificant difference in the percentage of total talk made up of critical thinking between languages.

It is undeniable that using L2 in classrooms, especially in EFL contexts has numerous advantages for the development of language skills. However, in peer feedback discussions that aim to practice critical thinking, as Hyland & Hyland(2006a) suggest, an EFL learner can be vulnerable to problems that may arise from the use of the target language. Therefore, in the light of the findings, it may be advisable to use L1, especially when students do not yet know each other well, which may be the initial lessons of a class. In this way, a cooperative atmosphere can be established between the learners, making use of the common pragmatic grounds, before moving on to switching the language of the discussions to the target language.

The participants of this study were considered high-proficiency EFL learners; however, the language use in the L2 discussions revealed that students lacked both the knowledge of the necessary variations in discourse to argue effectively and the pragmatic competence to carry out a discussion. It is certainly not only EAP courses' responsibility to increase critical thinking; however, equipping students with the necessary language abilities to carry out a discussion should be considered among the responsibilities of EAP. The findings of this study seem to point to the need for more practice in peer feedback discussions in EAP classes for an improvement both in language skills and Critical thinking skills.

Feedback guide sheets are essential instruments to structure a fruitful discussion. The peer feedback guide that was used for this study was kept simple to leave students room for their own thinking, and to see how the guide sheets were used. In fact, Group B students, who started their discussions in the L2, were highly dependent on the guide sheet, the comments following the items one by one. This indicates that guide sheets are indeed very useful especially in L2 discussions, when students need their support to overcome anxiety and language problems. Therefore, it is worth considering what kind of a guide sheet would be most useful. While an overly-detailed guide sheet may function as spoon feeding and prevent students from engaging in genuine critical thinking, an overly-simple one may also be ineffective. Students need both support and room to express themselves. This balance can be achieved by teachers' close attention to this issue, and by arranging the guide sheets according to the changing needs of the students and objectives of the task at hand.

In the case of this study, the participants were high-proficiency EFL students, but still they experienced difficulties in communicating in English. With students

who are not as proficient as these, it would be even more difficult to carry out such discussions in the L2. Therefore, if a teacher wants students to develop language skills and use English in such discussions, a more detailed guide sheet would be useful at first, considering the fact that the group starting off their discussion in L2 was highly dependent on the guide sheet. Such guide sheets might even contain varied uses of the discourse to carry out a discussion. In addition, guide sheets should include items regarding opinions and alternative ideas so as not to direct students too much towards structural aspects, and to help them question and find solutions, produce alternatives, and express their opinions in a justified manner.

In the present study, a negative atmosphere emerged in discussions of Group B, the reason for which may be the challenge of using the target language, or individual differences between the participants of the group which may have affected the dynamics of their interaction. Whichever the reason was, the conflicts between the students remained unresolved and this blocked communication (D. W. Johnson, et al., 1995b). Johnson and Johnson state that managing conflicts is a major issue in cooperative learning, and as long as conflicts are managed constructively in a group, this leads to higher level reasoning (p.26). Regardless of the language used, for effective communication and cooperation in peer feedback discussions to promote critical thinking, it is crucial to equip students with skills that would enable them to resolve conflicts. This can be achieved by teaching students to present their own and refute the opposing positions in a justified and polite manner, express honestly what they think and how they feel, seeing issues from a variety of perspectives, and reaching agreements through negotiations (Johnson & Johnson, 2009). Equipping students with the necessary language skills for such purposes in EAP courses would

help students use the target language constructively while leading them to be better critical thinkers.

Limitations of the Study

This study had to be conducted within the constraints of a small-scale study and completed in a limited time. Had there been more discussion groups in the study, or a greater number of discussions with the same students, the amount of data would have increased, giving more generalisable results. In addition, the presence of a camera and a recording device might have affected the students' natural attitudes or behaviors either in a negative or a positive way.

Another limitation of this study is that writing the essays and attending the discussions were on voluntary basis, and students may have not taken the process as seriously as they would have if it had been a part of their regular courses. Johnson &Johnson (2009) state that cooperative learning is based on joint action to achieve common goals. In the present study, such a goal is hardly present, and the fact that discussions were held out-of-class may have affected the process.

Participants of this study were second year TEFL majors, who were assumed to have an advanced level of language proficiency. However, their language competencies were below the expected level. In addition, detailed peer feedback training was not given as part of the study because peer feedback experience of the students was assumed. It turned out to be that, they knew about peer feedback theoretically, but in practice their competence was below the expectations of the researcher. More time for training might have lead to a more fruitful discussion.

Finally, the critical thinking test did not test students' disposition towards critical thinking. Other competencies (writing-speaking-reading-grammar) were also assumed as students were 2nd year majors of TEFL. Choosing participants after testing separate language competencies and giving a critical thinking test that tested disposition may have lead to results that could be discussed more confidently and in more detail.

Suggestions for Further Research

Bearing in mind the limitations of this study, a similar study could be conducted with a larger number of participants and with more than two groups, to be able to reach more generalisable results. Likewise, more time and training on how to give peer feedback could have led to a clearer picture of the differences between the languages. Moreover, the same study could be repeated with different students to see whether similar findings are attained.

A discussion of the differences in the amount of critical thinking between the discussions about the two essay topics was not included in the study. In this respect, a study that aims to examine the differences in the languages used between different kinds of tasks or topics that invite critical thinking could be conducted.

Conclusion

The primary aim of this study was to find out about quantitative and qualitative differences between the critical thinking displayed in the L1 and the L2 during peer feedback discussions by Turkish university EFL students. For this purpose, two groups of high-proficiency EFL students were chosen to discuss each other's essays on two different topics. Each group had discussions in L1 (Turkish) and L2 (English), in different orders. The discussions were audio- and video-

recorded, transcribed and coded according to a critical thinking framework for a detailed analysis. What was learned from this study is that critical thinking expressed in peer feedback discussions were quantitatively more in the L1, and qualitatively different. The quantitative difference appears to have caused by the greater amount of total talk in the L1. The qualitative differences seem to have resulted from the ease of using the native language as well as the safety provided by the pragmatic knowledge that made communication and interaction clearer in the L1. The findings of this research suggest that there is a need for further support for students to express their thoughts in spoken L2 more effectively. This may include more practice on giving effective peer feedback, focusing on the necessary discourse and pragmatic skills, and providing students with other discussion tasks and subject matters that invites critical thinking.

REFERENCES

Anderson, T., Howe, C., Soden, R., Halliday, J., & Low, J. (2001). Peer interaction and the learning of critical thinking skills in further education students. *Instructional Science, 29*(1), 1-32.

Bailin, S. & Siegel, H. (2003). Critical thinking. In N. Blake, R. Smith, P. Standish & P. Smeyers (Eds.), *The Blackwell guide to the philosophy of education* (pp. 181-194). Malden, MA: Blackwell Publishing.

Baron, J. (1990). *Thinking and Deciding*. New York, NY: Cambridge UP.

Bejarano, Y. (1987). A cooperative small-group methodology in the language classroom. *TESOL Quarterly, 21*(3), 483-504.

Berg, E. C. (1999). The effects of trained peer response on ESL students' revision types and writing quality. *Journal of Second Language Writing, 8*(3), 215-241.

Beyer, B. K. (2008). *What research tells us about teaching thinking skills*. http://www.highbeam.com/doc/1G1-188353869.html.

Bloom, B. S. (1956). *Taxonomy of Educational objectives: The classification of educational goals - Handbook I: Cognitive domain*. New York: McKay.

Carr, K. S. (1988). How can we teach critical thinking? *Childhood Education, 65*(2), 69-73.

Carson, J. E., Carrell, P. L., Silberstein, S., Kroll, B., & Kuehn, P. A. (1990). Reading-Writing relationships in first and second language. *TESOL Quarterly, 24*(2), 245-266.

Chaffee, J. (1985). Viewing reading and writing as thinking processes. Education Resources Information Center: ERIC# ED260110.

Chaffee, J. (2000). Thinking critically (6th ed.). New York: Houghton Mifflin Company.

Coster, J., & Ledovski, V. (2005). *Thinking outside the square: Promoting critical thinking through online discussions*. Paper presented at the 18th Annual EA Education Conference.

Cotton, K. (1991). *Teaching thinking skills*. Close-up #1: Northwest Regional Educational Laboratory, School Improvement Program. retrieved on 07. 01. 2009 from http://www.nwrel.org/scpd/sirs/6/cu11.html

Crandall, J. (1999). *Cooperative language learning and affective factors* (Vol. 245): Cambridge: Cambridge University Press.

Crawford, A., Saul, W. E., Mathews, S., & Makinster, J. (2005). *Teaching and learning strategies for the thinking classroom*. New York, NY: International Debate Education Association.

Dewey, J. (1910). *How We Think*. Buffalo, New York: Prometheus Books.

Dewey, J. (1944). *Democracy and Education*. New York, NY: The Free Press.

Dornyei, Z. (1997). Psychological processes in cooperative language learning: Group dynamics and motivation. *Modern Language Journal, 81*(4), 482-493.

Ennis, R. H. (1996). An outline of goals for a critical thinking curriculum and its assessment. (revised 10/18/2000). Retrieved May, 2009, from http://www.criticalthinking.net/goals.html

Ennis, R. H., & Weir, W. (1985). The Ennis-Weir critical thinking essay test. Pacific Grove, CA: Midwest Publications.

Ertmer, P. A., Richardson, J. C., Belland, B., Camin, D., Connolly, P., Coulthard, G., et al. (2007). Using Peer Feedback to Enhance the Quality of Student Online Postings: An Exploratory Study. *Journal of Computer-Mediated Communication, 12*(2), 412-433.

Facione, P. A. (1990). Critical Thinking: A statement of expert consensus for purposes of educational assessment and instruction: Research findings and recommendations (The Delphi Report). In E. Document (Eds.) (Vol. ED315423,

Facione, P. A., Sanchez, C. A., Facione, N. C., & Gainen, J. (1995). The disposition toward critical thinking. *Journal of General Education, 44*(1), 1-25.

Fisher, A. (2001). *Critical thinking: An introduction*. New York, NY: Cambridge University Press.

Fisher, A., & Scriven, M. (1997). *Critical thinking Its definition and assessment*. California: Edgepress.

Flower, L., & Hayes, J. R. (2004). A cognitive process theory of writing. In D. Wray (Ed.), *Literacy: Major themes in education* (pp. 40-63): Taylor & Francis.

Gelder, T. (2005). Teaching critical thinking: Some lessons from cognitive science. *College Teaching, 53*(1), 41-48.

Ghaith, G. (2003). The relationship between forms of instruction, achievement and perceptions of classroom climate. *Educational Research, 45*(1), 83-93.

Giancarlo, C. A., & Facione, P. A. (2001). A look across four years at the disposition toward critical thinking among undergraduate students. *The Journal of General Education, 50*(1), 29-55.

Gokhale, A. A. (1995). Collaborative Learning Enhances Critical Thinking. *Journal of Technology Education, 7*(1), 22-30.

Goldberg, M. (1983). Recovering and Discovering Treasures of the Mind. In J. N. Hays, P. A. Roth & J. R. Ramsey, Foulke, Robert D. (Eds.), *The Writer's Mind: Writig as a Mode of thinking*. Illinois: National Council of Teachers of English.

Guiller, J., Durndell, A., & Ross, A. (2008). Peer interaction and critical thinking: Face-to-face or online discussion? *Learning & Instruction, 18*(2), 187-200.

Halpern, D. F. (1998). Teaching critical thinking for transfer across domains. *American Psychologist, 53*(4), 449-455.

Halpern, D. F. (2006). The enhancement of critical thinking: With decades of converging evidence, meta-analyses with large effect sizes, and societal need, would you allow your child to be assigned to a "control" group? In R. Subotink & H. Walberg (Eds.),*The Scientific Basis of Educational Productivity*. Philadelphia, PA: Temple University Press.

Halpern, D. F. (2007). The nature and nurture of critical thinking. In R. J. Sternberg, H. L. Roediger & D. F. Halpern (Eds.), *Critical thinking in psychology* (pp. 1-15). New York, NY: Cambridge University Press.

Hirose, K. (2005). Cooperative learning in english writing instruction through peer feedback. Aichi Prefectural University, Japan Association for the Study of Cooperation in Education. retrieved on April 16th, 2009 from http://jasce.jp/conf05/hirosepaper.doc

Housen, A. C. (2002). Aesthetic thought, critical thinking, and transfer. *Arts and Learning Journal, 18*(1), 99-131.

Howe, E. R. (2004). Canadian and Japanese teachers' conceptions of critical thinking: A comparative study. *Teachers and Teaching, 10*(5), 505-525.

Huang, S.-y. (1996b). *L1 or L2 peer response sessions? Differences in verbal interactioan between a writing group that communicates in Mandarin Chinese and one that uses English*. Education Resources Information Center: ERIC# ED400679.

Hudgins, B., & Edelman, S. (1986). Teaching critical thinking skills to fourth and fifth graders through teacher-led small-group discussions. *Journal of Educational Research, 79*(6), 333-342.

Huitt, W. (1998). Critical thinking: An overview (pp. Retrieved January 3, 2009 from http://chiron.valdosta.edu/whuitt/col/cogsys/critthnk.html). Valdosta, GA: Valdosta State University.

Hyland, K., & Hyland, F. (2006a). *Feedback in second language writing: Contexts and issues*. New York, NY: Cambridge University Press.

Hyland, K., & Hyland, F. (2006b). Feedback on second language students' writing. *Language Teaching, 39*(02), 83-101.

Johnson, D., & Johnson, R. (2009). Conflict Resolution. retrieved in February 2010 from http://www.co-operation.org/pages/conflict.html

Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1995a). Learning together in the language arts classroom: Practical applications. In R. J. Stahl (Ed.), *Coopertive learning in language arts: A handbook for teachers* (pp. 49-70). Tempe: Addison-Wesley Publishing Company.

Kabilan, M. K. (2000). Creative and critical thinking in language classrooms. *The Internet TESL Journal, 6*(6).

Kagan, D. M. (1988). Evaluating a language arts program designed to teach higher level thinking skills. *Reading Improvement, 25*(1), 29-33.

Kamin, C. S., O'Sullivan, P. S., Younger, M., & Deterding, R. (2001). Measuring critical thinking in problem-based learning discourse. *Teaching and Learning in Medicine, 13*(1), 27-35.

Kanatlar, M. G. (2005). *L1 use in beginner level EFL speaking classes and its effect on elementary level student's oral performances.* Anadolu Üniversitesi, Eskişehir.

Kennedy, M., Fisher, M. B., & Ennis, R. H. (1991). Educational values and cognitive instruction: Implications for reform. In L. Idol (Ed.), *Educational Values and Cognitive Instruction: Implications for Reform* (pp. 11-35). Hillsdale, NJ: Lawrence Erlbaum Associates.

Kern, V. M., Saraiva, L. M., & Pacheco, R. C. d. S. (2003). Peer Review in Education: Promoting Collaboration, Written Expression, Critical Thinking, and Professional Responsibility. *Education and Information Technologies, 8*(1), 37-46.

King, A. (2002). Structuring
peer interaction to promote high-level cognitive processing. *Theory into Practice, 41*(1), 33-39.

Klimoviene, G., Urboniene, J., & Barzdziukiene, R. (2006). Developing Critical Thinking through Cooperative Learning. *Kalbu Studijos/Studies about Languages, 9*, 77-84.

Kobayashi, H., & Rinnert, C. (2008). Task response and text construction across L1 and L2 writing. *Journal of Second Language Writing, 17*, 7-29.

Kohonen, V. (1993). Experiential language learning: second language learning as cooperative learner education. In D. Nunan (Ed.), *Colloborative Language Learning*. New York, NY: Cambridge UP.

Kovalik, D. L., & Kovalik, L. M. (2007). Language simulations: The blending space for writing and critical thinking. *Simulation & Gaming, 38*(3), 310.

Kurfiss, J. G. (1988). *Critical Thinking: Theory, Research, Practice, and Possibilities*: Association for the Study of Higher Education.

Liang, X., & Mohan, B. A. (2003). Dilemmas of cooperative learning and academic proficiency in two languages. *Journal of English for Academic Purposes, 2*(1), 35-51.

Lockhart, C., & Ng, P. (1993). How useful is peer response. *Perspectives, 5*(1), 17-29.

Min, H. T. (2005). Training students to become successful peer reviewers. *System, 33*(2), 293-308.

Newman, D. R., Webb, B., & Cochrane, C. (1995). A content analysis method to measure critical thinking in face-to-face and computer supported group learning. Retrieved 25 May, 2009, from http://www.qub.ac.uk/mgt/papers/methods/contpap.html

Nunan, D. (1993). Introduction. In D. Nunan (Ed.), *Collaborative Language Learning and Teaching*. New York, NY: Cambridge UP.

Olsen, R. E., & Kagan, S. (1992). About cooperative learning. In C. Kessler (Ed.), *Cooperative language learning a teacher's resource book* (pp. 1-30). New Jersey: Prentice Hall Regents.

Oxford, R. L. (1997). Cooperative Learning, Collaborative Learning, and Interaction: Three Communicative Strands in the Language Classroom. *The Modern Language Journal, 81*(4), 443-456.

Paul, R. (1993). *Critical Thinking*. Santa Rosa, CA: Foundation for Critical Thinking.

Paul, R., & Elder, L. (2001). *Critical Thinking: Tools for taking charge of your Learning and Your Life*. New Jersey: Prentice Hall.

Paul, R. W. (1984). Critical thinking: Fundamental to education for a free society. *Educational Leadership, 42*(1), 4-14.

Perkins, D. N., & Salomon, G. (2006). *Transfer of learning: Contribution to the international encyclopedia of education, Oxford, England*: Pergamon Press. Retrieved June.

Plath, D., English, B., Connors, L., & Beveridge, A. (1999). Evaluating the outcomes of intensive critical thinking instruction for social work students. *Social Work Education, 18*(2), 207-217.

Reichenbach, B. R. (2001). Introduction to Critical Thinking. New York, NY: McGraw-Hill.

Ruggiero, V. R. (1995). *The art of the thinking: a guide to critical and creative thought*. New York: Harper Collins College Publishers.

Slavin, R. E. (1983). When does cooperative warming increase student achievement? *Psychological bulletin., 94*(3), 429-445.

Slavin, R. E. (1995). *Cooperative Learning* (Second Edition ed.). Massahusetts: Allyn and Bacon.

Sternberg, R. J., Roediger III, H. L., & Halpern, D. F. (Eds.). (2007). *Critical Thinking in Psychology*. New York, NY: Cambridge UP.

Sumner, W. G. (1906). *Folkways*. Boston: Ginn and Company.

Tarakçıoğlu, B. E. (2008). *Turkish University EFL students'oral expression of critical thinking in classroom discussions.* Bilkent University, Ankara.

Terwel, J. (2003). Co-operative LEarning in Secondary Education. In R. M. Gilles & A. F. Ashman (Eds.), *Co-operative Learning: The social and Intellectual outcomes of Learning in groups*. London: RoutledgeFalmer.

Tsui, A. B. M., & Ng, M. (2000). Do secondary L2 writers benefit from peer comments? *Journal of Second Language Writing, 9*(2), 147-170.

Vandergrift, L. (2006). Second language listening: Listening ability or language proficiency. *The Modern Language Journal, 90*(1), 6-18.

Vermillion, D. A. M. (1997). Developing critical thinking skills in EAP students. (Master's thesis, Biola University, 1997), Education Resources Information Center: ED 424749

Wang, L. (2003). Switching to first language among writers with differing second-language proficiency. *Journal of Second Language Writing, 12*(4), 347-375.

Wang, W., & Wen, Q. (2002). L1 use in the L2 composing process: An exploratory study of 16 Chinese EFL writers. *Journal of Second Language Writing, 11*(3), 225-246.

Waters, A. (2006). Thinking and language learning. *ELT Journal: English Language Teachers Journal, 60*(4), 319-327.

Zhu, W. (2001). Interaction and feedback in mixed peer response groups. *Journal of Second Language Writing, 10*(4), 251-276.

Özgür, N. (2007). *Teachers' Questions: Do they encourage critical thinking.* (Master's thesis, Anadolu Universitesi, 2007) Eskişehir.

İrfaner, S. (2002). *Implementation of the components of Critical thinking in an English 101 course in the first year English program at Bilkent University.* (master's thesis, Bilkent Universitesi, 2002) Ankara.

APPENDIX 1

EXAMPLE FROM GROUP A's DISCUSSION in THE L1

Student C's paper

D: Onun dışında ikinci paragraf… ikinci body paragrafını da yeterli buldum, girişi ve ardından desteklediği fikirleri yeterli buldum. Sonuçta da fikir yani özetlenmiş, gayet iyi özetlenmiş, hani bir sonuç paragrafı için de uzunluğu da gayet iyi bence.

A: Bi de biz yazı yazarken mesela bazen öyle bir hata yapıyoruz. Bir konuya tek bir açıdan yaklaşıp, bir sayfa yazıp ondan sonra kısa bir sonuçla bitiriyoruz. Yazıda şey güzel her paragrafta Facebook'a farklı bir açıdan yaklaşmış. Hem zamanla ilgili, hem çıkabilecek sorunlarla ilgili, hani farklı, belki akla gelmeyecek birkaç tan e şeye değinmiş.

D: Evet, böyle çizmiş hani sınırları..

C: Farklı yönlere bakmaya çalıştım yalnız az önceki yaptığımız hatalar gibi ben de sadece kendi görüşümü savunmuşum. Karşıt görüşe, neden sevdiklerine ya da neden kullanıldığına çok fazla yer vermemişim. Bu bir eksiklik, şu anda görüyorum, olsaymış daha güzel olabilirmiş aslında.

D: Çok kullanıcısı var Facebook' un, doğru evet… yani, onu çürütmek için.

C: O kadar kişi kullanıyorsa neden acaba, onu cevaplayabilirmişim.

B: Aslında giriş bölümünü biraz yaptın gibi onu da. Hani Facebook internetten baktığında çok güzel bir şey olarak görünüyor.

C: Ama tarafsız değil şeyde.

B: hm hm evet..[onaylıyor]

C: Yine karşı taraf çok yok diye düşünüyorum özeleştiri yaparsam. 71

D: Onun dışında benim ekleyeceğim pek bir şey yok. Burada topic sentence'ın da değişmesi..değiştirildikten sonra, organizasyonda ben pek hata görmüyorum.

A: Benim dikkatimi çeken o "real world" kelimesi. O kısım, ben de bu konuyu ilk okuduğumda aklıma gelen o oldu, sonuçta hani internet yapay bir ortam orda yapılan bir şey insanın sosyal hayatına ne kadar katkıda bulunabilir ki.

C: Ben de onu düşünmüştüm

D: Çok iyi bi fikir. Desteklemek için iyi bir fikir o.

TRANSLATION OF THE EXAMPLE FROM GROUP A's DISCUSSION in THE L1

D: Apart from that, the second paragraph…I find the second paragraph adequate, introduction and the supporting ideas that follow are adequate. After all the idea is well summarized, very well summarized, and its length is very good for a conclusion paragraph.

A: Sometimes we make a mistake while writing. We approach to an issue from one single point, we write one page, and then we finish by a short conclusion. In this writing, it is good that she approached Facebook from a different perspective in every paragraph. Both about time and problems that may arise, she pointed out different maybe elusive things.

D: Yes, like she drew the lines.

C: I tried to approach from different perspectives, but like the mistakes we did previously, I also supported my own opinion only. I didn't give a place for the opposite idea, why it is loved or why it is being used. This is missing, I see it now. If it was here, it could have been better.

D: There are a lot of users of Facebook, that's right, that is to refute that...

C: I could answer why, that many people are using, I could answer that…

B: In fact in the introduction part you did it a little. Like, Facebook seems very nice when we look at it from the internet..

C: But it is not objective there

B: hmm hmm [approving]

C: Still, I think the opposite side is not present here, if I make a self-criticism.

D: Apart from that, I don't have much to add. Here, the change of the topic sentence, and after that, I see no problem in organization.

A: I was attracted by that "real world" part. When I read this subject, that was what I thought first. The internet is a virtual place after all, and how can anything that is done there can benefit to social life.

C: that's what I thought.

D: It's a very good idea. Very good idea to support that is.

APPENDIX 2

EXAMPLE FROM GROUP B's DISCUSSION in THE L2

Student C's paper

B: I wanna start. Firstly i see that you did not decide your side. In an argumentative essay you should decide your side. For example, you are in the side of negative or positive. But you mentioned in your thesis statement there are some good and bad sides of using facebook. You should mention only one side of this, firstly, i think. And secondly your topic sentence is too general and I do not see a full topic sentence in your development paragraph. And..at the same time, I see some grammatical errors in your essay, for example "while reading our friends' activities and their news videos and photos" [correcting] "reading our friends activities, and watching our …their new videos and photos.." This is the error I think. I found this. And generally relevance and coherence of the ideas are good I think. Language use in the essay, you try to explain your ideas well but there are some errors, I mention like this. But you should add some specific details about your ideas, so the effectiveness of your essay can be more well I think, that's all.

A: I agree what.. I agree with what would you said. Your opinion isn't clear, which side of the idea are you in, also I want to say that your subjects in paragraphs are different from each other. In first developmental paragraph you say "you" but in second you say "we". I think these are a contradiction. Also your topic sentences are too general, they are not specific, and your supporting ideas are not very sufficient, I think. If you add something more, they would be more effective and more persuasive. That's all.

D: First of all I could not really find any connection with the title and the..

C: Yes you are right…

D: …essay. Every part of my life it says, I can not see any part of life. I don't know your life. ☺ I can not really see any connection. And, your thesis statement is good but in argumentative essay, as friends said, there must be a side that you choose and you should have chosen a side for yourself. I don't know if wrote this as an argumentative essay or not, but this should have been done like this, and… there is a problem with the coherence, because there are some sentences that cannot be understood in just one reading. For example, at the end of the first paragraph you say "while having a Facebook address, you are creating a chance to have a better communication with your friends. You can know each other well" you say. If they are your friends, you should have known them, I think.