In the Name of God

The Most Compassionate

The Most Merciful

University of Guilan
Faculty of Literature and Humanities
English Language Department

A Thesis Submitted in Partial Fulfillment of the Requirements of M. A. Degree in Teaching English as a Foreign Language

The impact of Synchronous Computer-Mediated Communication on writing ability, patterns of collaboration and motivation of Iranian EFL learners

By:
Azadeh Mozafarian Pour

Supervisor:
Dr. Abdorreza Tahriri

Advisor:
Dr. Zhaleh Hassaskhah

February 2015

Dedicated to

My beloved husband and my kind family, who have encouraged my dreams, supported my goals and loved me throughout my life.

Acknowledgements

I wish to express my heartfelt thanks to the esteemed members of my thesis committee without the guidance and kind help of whom I would never have been able to complete this work.

First and foremost, I would like to present my sincere gratitude to my kind supervisor, dear Dr. Abdorreza Tahriri, for his continuous and persistent support throughout my study and research and for his patience, enthusiasm and broad knowledge, which were the key to my success in completing this thesis. He was the person whose support and guidance inspired me with hope and gave me the power to accomplish the present study.

I also present my special thanks to my dear advisor, Dr. Zhaleh Hassaskhah for her unselfish and wise guidance and support that was vital to completing this thesis in a more appropriate way.

My sincere thanks also go to the members of my committee who were more than generous with their precious time and expertise. Thank you Dr. Masoud Khalili Sabet and Dr. Mansour Shabani for accepting to be the examiners of my thesis.

Finally, I would like to thank my beloved husband and my dear family for all their sacrifices and support on my behalf. I am who I am and what I am today because of them.

Azadeh Mozafarian Pour

February, 2014

Table of Contents

Abstract……..XIV

Chapter One: INTRODUCTION

1.1 Background……...2

1.2 Statement of the Problem……..4

1.3 Significance of the Study…….5

1.4 Objectives of the Study……6

1.5 Research Questions……..6

1.6 Research Hypotheses…….. 7

1.7 Definition of Key Terms……..7

1.8 Outline of the Study……8

Chapter Two: LITERATURE REVIEW

2.1. Introduction……11

2.2 Theoretical Framework……...11

2.2.1 Interaction Hypothesis……11

2.2.2 Input Hypothesis……..12

2.2.3 Constructivism……...……..13

2.2.4 Sociocultural Theory……..…….14

2.3 Research Background……..……..14

2.3.1 SCMC and Writing……..……...15

2.3.2 SCMC and Collaboration……..……..22

2.3.3 SCMC and Motivation……..……..36

2.3.4 SCMC, Motivation and Writing/Collaboration……43

Chapter Three: METHODOLOGY

3.1 Introduction…….46

3.2 Research Design……..46

3.3 Participants……..46

3.4 Instruments……..47

3.4.1 Placement Test (ELPE)……47

3.4.2 Background Questionnaire…….…….....48

3.4.3 Writing Pre-test……...…..……48

3.4.4 SCMC Programs……...…..…..49

3.4.4.1 Internet relay Chat (IRC)……..…..…..49

3.4.4.2 2D (2 Dimensional)…….…...….. 50

3.4.4.3 Additional Software Programs…….……...…..51

3.4.5 Task Types……...…52

3.4.6 Writing Post-test…….……....…..53

3.4.7 Questionnaires……...…….....53

3.4.7.1 Collaboration Questionnaire…….....53

3.4.7.2 Attitude/Motivation Questionnaire…….....56

3.5 Procedure…….....…..……..57

3.5.1 Administering Placement Test, Background Questionnaire, Writing Pre-Test and Motivation Questionnaire……....…..…..…57

3.5.1.1 Placement Test (ELPE)…….....…57

3.5.1.2 Background Questionnaire……...58

3.5.1.3 Writing Pre-test……59

3.5.1.4 Attitude/Motivation Questionnaire……..60

3.5.2 Practice Sessions……60

3.5.3 Treatment……60

3.5.3.1 Course Schedule……...61

3.5.3.2 Instruction (Experimental and Control Groups)……..62

3.5.3.2.1 IRC Group Classes……...63

3.5.3.2.2 2-D Classes……...64

3.5.3.2.3 F2F Group Classes……64

3.5.4 Administering the Writing Post-Test and the Collaboration and Attitude/Motivation Questionnaires……65

3.6 Data analysis……..66

3.6.1 Writing……67

3.6.1.1 Total Words Written (TWW)……...67

3.6.1.2 Words Spelled Correctly (WSC)……67

3.6.1.3 Correct Writing Sequences (CWS)……67

3.6.1.4 Total Writing Sequences (TWS)……68

3.6.2 Patterns of Collaboration……68

3.6.2.1 Quantitative Analysis……...68

3.6.2.2 Qualitative analysis……..69

3.6.3 Motivation……..70

Chapter Four: RESULTS

4.1 Introduction…….....72

4.2 The Effect of SCMC on the EFL Learners' Writing Ability (The First Research Question)…….…....72

4.2.1 Total Words Written (TWW)…….……73

4.2.2 Words Spelled Correctly (WSC)…….……...74

4.2.3 Correct Writing Sequences (CWS)…….…...76

4.2.4 Total Writing Sequences (TWS)……..…..77

4.2.5 Overall Writing Fluency……...…..79

4.3 The Effect of SCMC on the EFL Learners' Collaboration (The Second Research Question)……...…..85

4.3.1 Quantitative Analysis of Collaboration……...…...85

4.3.1.1 Collaboration on Class Work (Part A)……...….86

4.3.1.2 Class Interaction (Part B1)……...…...87

4.3.1.3 Student Impressions (Part B2)……....….88

4.3.2 Qualitative Analysis of Patterns of Collaboration……....….....89

4.3.2.1 Qualitative Analysis of IRC Group……...….89

4.3.2.2 Qualitative Analysis of 2D Group……...…...93

4.3.2.3 Qualitative Analysis of F2F Group……....…….96

4.4 The Effect of SCMC on EFL Learners' Motivation (The Third Research Question).....103

4.4.1 Between-Group Analysis……....….104

4.4.2 Within-Group Analysis…….....107

4.4.2.1 IRC Within-Group Motivation…….....…….107

4.4.2.2 2-D Within-Group Motivation…….....….107

4.4.2.3 F2F Within-Group Motivation…….....…….108

Chapter Five: DISCUSSION AND CONCLUSIONS

5.1 Introduction…….....……111

5.2 Discussion…….....…...111

5.2.1 SCMC and Writing…….....…….111

5.2.2 SCMC and Patterns of Collaboration…….....……..113

5.2.3 SCMC and Motivation…….....……115

5.3 Conclusions…….....…116

5.4 Limitations and Delimitations of the Study…….....…..117

5.5 Pedagogical Implications…….....…...118

5.6 Suggestions for Further Research…….....……..118

References…….....…..120

Appendices…….....….129

List of Tables

Table 3.1 Item-Total Statistics of Collaboration on Class Work Questionnaire (Part A)….....54

Table 3.2 Item-Total Statistics of Students' Impressions Questionnaire (Part B1)……...…….55

Table 3.3 Summary-Item Statistics of Future Interactions Questionnaire (Part B2)……...…...55

Table 3.4 Intra-class Correlation Coefficient of Future Interactions Questionnaire (Part B2)……..……56

Table 3.5 Participants' Familiarity with Computers and their Computer Use……...…….58

Table 3.6 The Practice Sessions' Program……..…60

Table 3.7 Course Schedule……...……...61

Table 3.8 Overview of Data Analysis……...….....66

Table 4.1 TWW of the Three Groups Before and After the Experiment…….....73

Table 4.2 WSC of the Three Groups Before and After the Experiment……....…….74

Table 4.3 CWS for the Three Groups Before and After the Experiment…….....76

Table 4.4 TWS of the Three Groups Before and After the Experiment……....…….77

Table 4.5 Kolmogorov-Smirnov Test for Writing Pre-Test Scores……..…….79

Table 4.6 Descriptive Statistics of the Three groups' TWW……..…….....79

Table 4.7 One-Way ANCOVA for the Three groups' TWW……...……..80

Table 4.8 Descriptive Statistics of the Three groups' WSC……...…….....80

Table 4.9 One-Way ANCOVA for the Three Groups' WSC……...….....80

Table 4.10 Descriptive Statistics of the Three groups' CWS…….....81

Table 4.11 One-Way ANCOVA for the Three Groups' CWS…….....81

Table 4.12 Descriptive Statistics of the Three Groups' TWS…….....82

Table 4.13 One-Way ANCOVA for the three groups' TWS…….....82

Table 4.14 Contrast Analysis (Matrix) of the Three Groups (Post-Hoc Test)…….....83

Table 4.15 Kolmogorov-Smirnov Test for Collaboration (Pre-Intervention)……...……..85

Table 4.16 One-Way ANOVA Analysis of Collaboration of the Three Groups (Pre-Intervention)…….....86

Table 4.17 Descriptive Statistics of the Groups' Collaboration on Class Work (Part A, Post-Experiment)……...…..…86

Table 4.18 One-Way ANOVA for Collaboration on Class Work (Part A, Post-Experiment)…….....…..87

Table 4.19 Descriptive Statistics of the Groups' Class Interaction (Part B1, Post-Experiment)…….....…87

Table 4.20 One-way ANOVA for Class Interaction (Part B1, Post-Experiment)…….....88

Table 4.21 Descriptive Statistics of the Groups' Impressions (Part B2, Post-Experiment)……...……88

Table 4.22 One-way ANOVA for Three Groups' Impressions (Part B2, Post-Experiment)…….....89

Table 4.23 Kolmogorov-Smirnov Test for Motivation (Pre-Experiment)…….....104

Table 4.24 One-way ANOVA (Motivation Pre-Test Scores)…….....105

Table 4.25 Descriptive Statistics of the Groups' Motivation (Post-Test Scores)……...….....105

Table 4.26 One-way ANOVA for Motivation (Post-Experiment Scores)…….....105

Table 4.27 Multiple Comparisons of Motivation Post-Test Scores……...….....106

Table 4.28 Paired-Samples Statistics for IRC Group……...……..107

Table 4.29 Paired-samples T-Test (IRC Group)……....…….....107

Table 4.30 Paired-Samples Statistics for 2D Group…….....108

Table 4.31 Paired-samples T-Test (2D Group)……....…...108

Table 4.32 Paired-Samples Statistics for F2F Group…….....…108

Table 4.33 Paired-Samples T-Test (F2F Group)……...….....109

List of Figures

Figure 3.1. A model of dyadic interaction, Storch (2002), p. 128. ……..……69

Figure 4.1. The groups' TWW before and after the experiment……..….73

Figure 4.2. Improvement of the three groups in terms of TWW……..…….74

Figure 4.3. The groups' WSC before and after the experiment……...…..75

Figure 4.4. Improvement of the three groups in terms of WSC……...….75

Figure 4.5. The three groups' CWS before and after the experiment……..….76

Figure 4.6. Improvement of the three groups in terms of CWS……...….77

Figure 4.7. The groups' TWS before and after the experiment……...…..78

Figure 4.8. Improvement of the three groups in terms of TWS……..……..78

List of Abbreviations

CBM: Curriculum-Based Measurement

CWS: Correct Writing Sequences

2D: 2-Dimentional

ELPE: English Language Proficiency Exam

F2F: Face-to-Face

IRC: Internet Relay Chat

SCMC: Synchronous Computer-Mediated Communication

TWS: Total Writing Sequences

TWW: Total Words Written

WSC: Words Spelled Correctly

Abstract

The Impact of Synchronous Computer-Mediated Communication (SCMC) on Writing Ability, Patterns of Collaboration and Motivation of Iranian EFL Learners

Azadeh Mozafarian Pour

The present study sought to investigate the impact of Synchronous Computer-Mediated Communication (SCMC) on the writing ability, patterns of collaboration and motivation of EFL learners. To this end, 26 upper-intermediate female students were randomly chosen from a language institute and then randomly assigned to one control (F2F) and two experimental (IRC and 2D) groups. Writing was taught to the experimental groups through two different modes of online communication (IRC and 2D), while the control group attended an ordinary oral classroom at the institute. To determine the participants' proficiency level, they were given a placement test prior to the experiment. In addition, all the three groups were given a pre- and post-test writing prior to and after the experiment. Their writings were then assessed based on the criteria of "writing fluency CBM" (Curriculum-Based Measurement), which consist of: 1) Total Words Written (TWW), 2) Words Spelled Correctly (WSC), 3) Correct Writing Sequences (CWS), and Total Writing Sequences (TWS). The qualitative analysis of the students' patterns of collaboration was based on Storch's (2002) patterns of dyadic interaction. On the other hand, the quantitative data were collected via a three-part Likert-scale questionnaire adopted from Haythornthwaite (2000). Finally, the students' motivation was examined by a validated attitude/motivation questionnaire before and after the experiment. The results of ANCOVA showed a significant influence of the SCMC mode on two out of the four categories of writing (CWS, $p = .048$ and TWS, $p = .045$). Further post-hoc tests showed a significant difference between 2D and F2F groups, ($p = .03$) but no statistically significant difference between IRC and F2F groups, ($p = .05$). Regarding patterns of collaboration, the results of one-way ANOVA showed no statistically significant difference between the experimental and control groups. However, the qualitative analysis revealed that the two experimental groups (2D and IRC respectively) generated a higher amount of collaboration, compared to the F2F context. Eventually, with regard to motivation, the results of the one-way ANOVA and post-hoc tests revealed a statistically significant difference between the experimental groups and the control group ($p = .001$) but no statistically significant difference between the two experimental groups. The findings of the study might provide new insights into the potential of using SCMC in improving students' writing ability, enhancing their motivation, and generating more collaboration in learning.

Keywords: Synchronous Computer-Mediated Communication (SCMC), Internet Relay Chat (IRC), 2D (2-Dimentional), Face-to-Face context (F2F), Writing ability, Collaboration, motivation, EFL.

CHAPTER ONE

INTRODUCTION

1.1 Background

Computer Assisted Language Learning (CALL), though a rather young phenomenon, has received increasing attention from researchers and educators in numerous fields, especially second and foreign language teaching and learning. The reason is, of course, the breadth of its realm and different varieties of facilities and equipment that it provides to its users so as to make their tasks much easier and more enjoyable. As Colon (2011) stated, in the foreign language classroom, there has been a shift from 'structural CALL' in the 1970s and 1980s, which focused on communicative tasks with materials facilitated through CALL, to 'integrative CALL' in the 21st century, with an emphasis on the authentic discourse approach. "As such, the foreign language classroom is being transformed into an extended learning environment where student roles are increasingly autonomous and instructor roles are more and more those of a facilitator and mediator" (Colon, 2011, p. 2).

Early work with microcomputers began to increase in the 1980s that involved teams of language teachers, designers, and programmers. Hubbard (2009) names MIT's Athena Language Learning Project as one of the most ambitious undertakings in the history of language teaching with its attempt to bring together interactive videodisc and Artificial Intelligence (AI) applications to revolutionize language learning. He believes that the project produced some intriguing materials, especially a drama in which the students play a character trying to find an apartment in Paris.

Language education is one of the main fields in which CALL has been sought with the aim of solving and removing or at least reducing the existing problems of teaching different language skills as well as other issues such as enhancing students' collaborative learning and motivation towards class activities. As such, nowadays CALL has improved tremendously in the field of language education and it has extended to include different audio-visual facilities. One fundamental area within CALL is Computer Mediated Communication (CMC) with its two main types, Synchronous (chat rooms, MOOs, audio and video conferencing) and Asynchronous (e-mail, and bulletin boards), which are named according to the timeliness of the communication. The major difference between the two modes of communication is that in the synchronous mode (SCMC) two or more people in contact can communicate with each other instantaneously and without any delay in receiving the answer while in the asynchronous mode (ACMC) there is a time lag in between. Both modes of CMC have been utilized for teaching the

four main language skills (listening, speaking, reading, and writing) and a large body of research has been conducted to investigate the effectiveness of CMC in its two modes in teaching languages (Sullivan & Pratt, 1996; Beauvois & Eledge, 1996; Ingram, Hathorn & Evans, 2000; Duvall & Schwartz, 2000; McGuan, 2002; Ho, 2002; Liu & Sadler, 2003; Smith, Alvarez-Torres, & Zhao, 2003; Coniam & Wong, 2004; Okuyama, 2005; Abe, 2005; Harstinski, 2005; Roselle-Aguilar, 2007; Hauck, 2008; Young & Edwards, 2010; Harstinski, 2010; Jeong, 2011; Goda & Yamada, 2013; Lin, Huang, & Liou, 2013; to mention a few).

In almost all of these studies, numerous advantages are enumerated for CMC and it is even proposed as a beneficial compensation for the limitations of the traditional face-to-face interaction, especially in large classes where the teacher cannot pay enough attention to all students in the classroom. However, some disadvantages have also been mentioned for this medium of communication. La Pointe (2003) believes that there are many advantages and only some disadvantages as far as CMC is concerned. The advantages that she referred to are: using and developing many higher-order thinking skills, co-constructing new knowledge, leading to higher levels of learning, reducing isolation, and motivating the students to be part of an effective group. The disadvantages that La Pointe mentioned are: not all students are willing to interact through CMC; some tasks do not require interaction; postings do not provide food for thought; threads become irrelevant; and CMC discussion seems like busy work. In addition, McGuan (2002) pointed out the benefits of asynchronous form of communication as follows: being less confrontational than face-to-face interaction, hence allowing for more equal participation of learners especially those who may find classroom interaction intimidating; having the potential to encourage more reflective interaction since both tutor and learner have more time for thought and reading; being a timeless medium for limitless group interaction even after the class; being text-based in nature, providing a permanent resource for the learner and tutor to reflect on later; being easy for both learner and tutor to monitor their contributions; having more flexibility as when and where to contribute; and having the potential to develop co-operative learning. According to Ingram, Hauthorn, and Evans (2000), “the advantages of synchronous communications in many situations are in the immediacy of communications and the ability to trade ideas and information quickly and without necessarily being locked into a position” (p. 22). In order to help provide more information in this regard, the present study sought to examine the impact of Synchronous CMC on the writing ability, patterns of collaboration and motivation of Iranian EFL learners.

1.2 Statement of the Problem

Numerous language teachers and researchers consider writing in a foreign language as a very demanding skill for the students. As Rivers (1968) stated, “many college and university students with four, five, even six or more years of study of another language behind them are still unable to express themselves in a clear, correct, and comprehensible manner in writing”(p. 291). Celce-Murcia (2001) also believes that “the ability to express one’s ideas in writing in a second or foreign language and to do so with reasonable coherence and accuracy is a major achievement” (p. 205). Therefore, EFL teachers are always looking for an appropriate way to teach this difficult skill to the students so that they would not feel overwhelmed or frustrated during the process of learning and practicing it in the classroom. However, there are problems that teachers always have to struggle with, especially in traditional face-to-face classroom environments. First, most EFL classes are usually large and crowded, including at least 25 to 30 or even more students with different needs, abilities, cultural values and linguistic backgrounds. Second, EFL classes are mostly teacher-centered with little time for interaction between students and teacher and even among students themselves, while nowadays based on the principles of Communicative Language Teaching (CLT), classes should be learner-centered with the goal of encouraging learners to move towards learner autonomy. This problem has been pointed out by several researchers (e.g. Wei-Yuan, 2002; Rezaie & Zafari, 2010; McGuan, 2002). Third, as Shan (2003) stated, passive, shy and weak students in spoken language are unwilling or unable to participate in face to face discussions in a language classroom “and the problem is even worse if they have to discuss in their second language”(p. 12).

Rezaie and Zafari (2010) divided the problems in the classroom into two groups: learners’ problems and teachers’ problems. Regarding learners’ problems, they stated that many of the learners are hesitant, cautious, and passive, trying to avoid active participation in classroom interactions. Thus, a main concern for the teacher is how to activate such students in the class. And as for teachers’ problems, they have little time to cover the course syllabus and the large number of students that they have to handle in the classroom may result in a chaos and the teacher’s lack of control over the discussions in group work.

Colon (2011) mentioned some of the limitations of teaching language in a traditional classroom environment as:

> limited exposure to the target language, limited opportunities for producing

> the new language, exposure to inaccurate, nonnative language as produced by fellow students, limited opportunities for authentic communication in the target language in a wide range of physical and sociolinguistic settings, and the limited language ability and cultural knowledge of many nonnative second language instructors, who provide learners with a less than ideal model of the new language and its associated culture (p. 1).

Colon (2011) also believes that computers in the classroom can provide language learners with opportunities that are way beyond the traditional classroom environment. "Computers, especially those that are Internet-enabled, provide learners with the opportunity to search, discover, and utilize information according to their needs, thus promoting student-centered learning" (p. 2). Therefore, considering the numerous advantages that CMC has, some of which have been mentioned earlier, it presents itself as a potential solution to these problems. As a result, the present study investigates the effectiveness of Synchronous CMC on the writing ability, patterns of collaboration and motivation of Iranian EFL learners.

1.3 Significance of the Study

This study is significant for the following reasons: First of all, CALL is still a young field and despite all the research that has been done in it so far, further studies are needed to shed more light on the different aspects and capabilities of this rather recent phenomenon in the area of language teaching and learning. Jeong (2010) believes that despite the plethora of studies on CMC, there still are gaps to be filled among which are the following: first, many studies in the field of CMC have been done with a main focus on asynchronous CMC (Davis & Tiede, 2000; Mabrito, 1991; Sotillo, 2000; Sullivan, 1993; cited in Jeong, 2010); second, numerous researchers have been interested in the effect of SCMC on speaking (Chapelle, 1997; Chun,1994; Kern, 1995; Pellettieri, 2000; Warschauer, 1996a; cited in Jeong, 2010). Therefore, more studies on SCMC with regard to writing are required.

Second, Carswell (2002) believes that "most research into web-based asynchronous education has been atheoretical, anecdotal, or descriptive in nature consisting of discussions of instructor and student experiences and 'how-to' guides. Quantitative information often consists

of surveys of student satisfaction, using unvalidated instruments" (p. 476). This study is, therefore, trying to provide information based on validated instruments that fit in the EFL context.

Third, Chou (2002) stated that "as most distance learning environments utilize mainly asynchronous Computer-Mediated Communication (CMC) systems, interaction research that focuses on synchronous CMC is largely ignored" (p. 1).

And fourth, if CALL proves to be beneficial in any way in the field of language education, it will provide teachers, students, and other stakeholders with the opportunity to facilitate schools and other teaching institutions as well as teachers and learners with more advanced, convenient, varied, and up-to-date methods and materials for a more beneficial and effective way of teaching and learning languages. In line with what is mentioned, Colon (2011) states that the use of social network sites is necessary for providing a more realistic social interaction. He also added that "it is clear that the use of technology in a foreign language classroom is essential and should be continually explored" (p. 91).

1.4 Objectives of the Study

The present study aims at investigating:

- whether Synchronous CMC is more effective in the development of Iranian EFL learners' writing ability in comparison to face-to-face interaction;
- whether SCMC has any impact on the Iranian EFL learners' patterns of collaboration; and
- whether SCMC is effective in the Iranian EFL learners' motivation for participating in classroom activities.

1.5 Research Questions

To guide this inquiry, the following research questions are to be answered:

1. Is SCMC more effective in developing EFL learners' writing ability than the face-to-face classroom context?
2. Is SCMC an effective medium for providing the EFL learners with a more collaborative context of language learning than the face-to-face context?