What can EFL Learners Learn from Computer-Mediated Communication Activities?

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1. Purpose

The purpose of this study is: (1) to consider management issues of Cyber Learning and introduce Cross-Cultural Distance Learning (henceforth, CCDL) project at Waseda University, (2) to analyze synchronous computer-mediated communication (henceforth, CMC) data by such measurements as mean length of utterance (henceforth, MLU), type/token ratio (henceforth, TTR) , and vocabulary level, (3) and to illustrate some characteristics of CMC activities in the EFL context.

2. The nature of CMC as Cyber Learning

We will examine the nature of CMC by describing various possible ways to implement CMC in English Language Education.   Information Technology can be used in unlimited ways for e-learning, but we will focus on the three kinds of Cyber Learning here: 1) E-mail exchanges, 2) Text-based synchronous CMC (chatting in general), and 3) Cyber Seminars and Cyber Lectures by the use of videoconferencing.

First, e-mail exchanges are defined as asynchronous CMC, according to Herring (1996). Therefore, e-mail exchanges have advantage of flexible time management because it can be used inside or outside of their classes.   We will illustrate teachers' tasks when we implement an e-mail exchange project as follows:

(Step 1)   Check students' language and computer literacy.   (Robb, 1996;   Helland et al., 1999)

(Step2)   Find Partners.   (Robb, 1996; Helland et al., 1999)

(Step3)   Decide the schedule.   (Robb, 1996; Choi et al., 1999; Helland et al., 1999)

(Step4)   Set the goals.   (Miake, 1997;   Helland et al., 1999)

(Step5)   Set topics, such as what they talk about.   (Miake, 1997; Choi et al., 1999)

(Step6)   Track progress of communication such as assigning and reassigning partners.

(Robb, 1996; Helland et al., 1999)

(Step7)   Give students opportunities to share and exchange their opinions.

(Step8)   Evaluate students.   (Robb, 1996; Choi et al., 1999; Helland et al., 1999)

Second, text- based synchronous CMC is discussed.   Chatting is a more colloquial and familiar term than text-based synchronous CMC.   First, we will examine text-based CMC without image transfer by illustrating "Web Chat" and "I seek you (ICQ)."   Second, we will focus on CU-SeeMe and Netmeeting that are categorized as text-based CMC with image transfer.   Third, we investigate the characteristics of "Character Chat" by showing 2-dimentional "Microsoft Chat", and

three-dimensional "Active worlds" and three-dimensional Interactive Education System (3D-ies). We introduce these three kinds of text-based synchronous CMC and compare and contrast them by considering pedagogical use.

Lastly, Cyber Seminars and Lectures are examined. Here we can define Cyber Seminars and Lectures as Cyber joint classes by the use of videoconferencing equipment. While examining mechanism of videoconferencing, I suggest that teachers should prepare for another guidance plan and ensure emergency contact on the partner's side when incorporating Cyber Seminars and Lectures into classrooms.

3. An introduction of CCDL

I make an issue of implementation of the CCDL project on the part of both teachers and students. Hirano (unknown year) states that CCDL participants have three goals: 1) to acquire English language, 2) develop mutual understanding with overseas students, and 3) get used to Information Technology. These three are regarded as sought-after skills in today's society in the new century. The CCDL project is briefly outlined. I present how Waseda has enlarged and organized the project. Since the CCDL homepage system plays a central role in implementing the project, I introduce what students do and what teachers can do by the use of the system. While illustrating students' tasks and teachers' management tasks, I point out several difficulties which teachers as well as students can encounter in the process of this kind of cross-cultural project.

From my personal experience of CCDL, I draw a conclusion that whatever method or equipment teachers adopt in this kind of project, unless students actively engage in communication, the project will never be successful. Therefore, what teachers need to consider is that: (1) the method has to be simple, (2) the method has to make students determined and motivated, and (3) the method has to be somehow compulsory but it has to induce students' spontaneous engagement. In the following chapters, we move on to discuss students' benefits from CMC activities in light of the measurements such as MLU.

4. Mean Length of Utterance

The purpose is to investigate whether or not students can make progress in MLU for a period of one term by taking part in synchronous CMC. We can assume that, if students increase their MLU, they make progress in grammatical development. That is because Roger Brown (1973) defined that *"MLU (Mean Length of Utterance) is an excellent simple index of grammatical development because almost every new kind of knowledge increases length"* (Brown, 1973:53).

The subjects are Waseda University and Korea University students who participated in Cross- Cultural Distance Learning (CCDL) project in the academic year 2000. They engaged in synchronous CMC through the use of the software called CU-SeeMe. They had a weekly chat not in groups but on the basis of one-on-one communication. They met the same partner at their scheduled time and enjoyed chatting for about 45 minutes throughout one term. In order to track student's development, I measured students' MLU of October session, November session, December session.

There is some progress among almost all the students (33 out of 34 students) with the application of regression analysis methods; however, the way MLU increases differs greatly in individuals.

While some students progress consistently, some students increase their MLU at some sessions and decrease at others. So, their progress is not linearly definable. However, judging from Fig 1, we can find that the mean values of all the students' MLU linearly increase with high reliability, because R^2 of the two approximated regression lines for Waseda University students and Korea University students show 0.90 and 0.91, respectively.

$$y = 0.2835x + 4.787$$
$$R^2 = 0.90$$

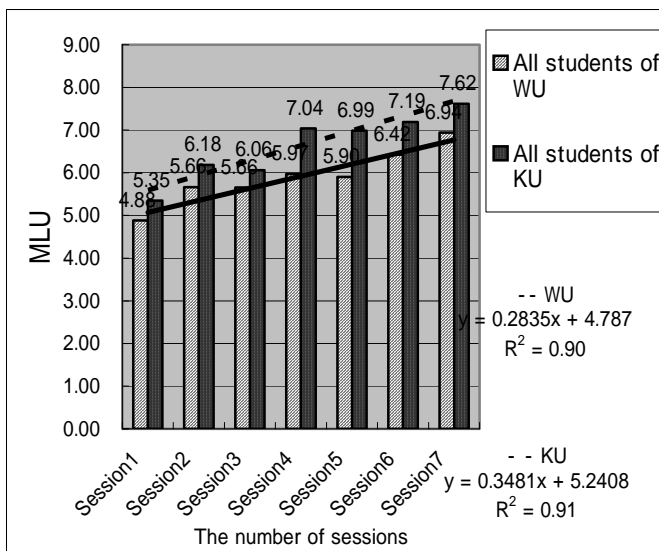$$y = 0.3481x + 5.2408$$
$$R^2 = 0.91$$

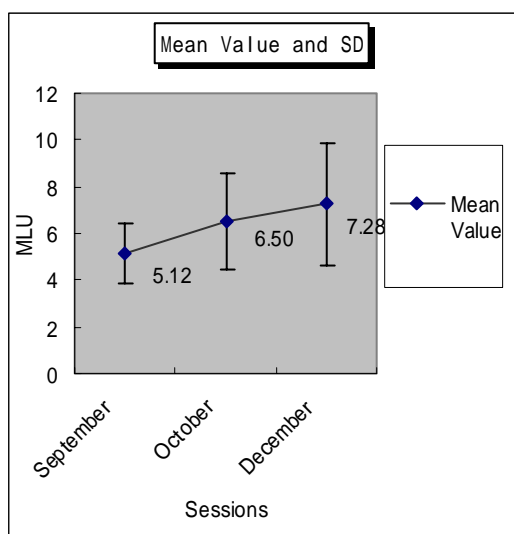Fig.1   MLU movement of Waseda and Korea students by sessions

Fig.2   MLU in each month

We verify the increase of students' MLU by using statistical tests. We examine whether or not their MLU significantly differs in September session, October session, December session by one-way ANOVA. The results of one-way ANOVA indicate that there is statistical significance among students' MLU in each month: $(F_{(2, 99)}=3.088, **p<0.01)$. From the results, since the mean values of our students' MLU tend to increase from session to session, we can assure that students who engaged in synchronous CMC were able to make progress in grammatical development in each month.

However, the length of utterance cannot always correspond with the level of their progress in their proficiency. Therefore, we need more research to investigate other factors to increase students' MLU.

5.   Basic Analysis of CMC 2: Lexical Diversity and Density

I examine whether or not the students who participated in synchronous CMC project made progress in terms of lexical diversity. In order to examine it, the initial 500 words and the final 500 words that students used are compared and contrasted. Firstly, Type/ Token Ratios (TTR) are used.

"TTR has been extensively used in child language research as an index of lexical diversity". (Richards, 1986:201). Therefore, we can assume that students use their vocabulary actively if the ratios increase. Secondly, according to the categorization of JACET 4000 vocabulary levels, we will examine how our students come to use more advanced vocabulary through the experiences of synchronous CMC.

Our subjects are 14 pairs, 28 University students in Korea and Japan. One pair consists of one Waseda University student and one Korea University student. The pair was fixed in one semester without changing their partner. They had a chatting session once a week and they were free to discuss in English nearly for 45 minutes. The proficiency level of Waseda University students was intermediate and their major was not English. On the other hand, the most of Korea University students were at the more advanced level and they all belonged to Department of English and English Literature in Korea University. The total number of sessions changes in each pair because national holidays were intervened or partners were absent.

In data analysis1, the initial and the final 500 tokens that our 28 students uttered via CMC sessions are analyzed. The results show that 15 students out of 28 increase their TTRs through CMC activities and 13 students decrease. The mean values of all students have no change (from 41.62 to 41.66). Overall TTRs per 14000 tokens among 28 students are slightly raised (from 11.1-11.7). However, statistically significant differences cannot be observed.

In data analysis 2, we define the 14 students whose initial TTR is higher as Group A and the remaining 14 students whose TTRs are lower as Group B. We then test the difference of increases in TTRs between Group A and B by the Wilcoxon Matched-Pairs Single-Ranks Test. The results indicate that the difference of the increases in mean values of TTRs between Group A and Group B is statistically significant at the probability level of **0.01. Data analysis 3 investigates whether students come to use actively more advanced vocabulary through experiences of synchronous CMC with their partners. We group the words used by students into the 5 levels that the Japanese Association for College English Teachers (JACET) categorized. The initial 7000 words they used (500 (words) × 14 (the number of students)) and the final 7000 words are compared. The results show that the lexical density among Group A in two occasions remains almost the same. However, Group B tends to use the more advanced level vocabulary frequently. .

From the results of data analyses 2 and 3, synchronous CMC is likely to help inexperienced students enrich their vocabulary use, since Group B had been exposed and had been stimulated by the variety of words that Group A had actively used.

6.   Conversationality of CMC

We shall focus on some naturalistic data from L2 students' CMC and discuss CMC's conversationality for the purpose of examining whether CMC shares conversational features. Students can add conversational elements to CMC so that they can avoid misunderstanding and convey what they really mean, for CMC is artificial circumstances in which human interactions were made possible via IT networking techniques. First, we will discuss CMC's problematic conditions under which our mutual interaction can be difficult to achieve. Then, we will examine how

learners overcome these conditions by citing examples from their data.

Our students are 14 Waseda University students and 14 Korea University students.   All of them engaged in CCDL projects from Oct. to Dec. in the year 2000.   The medium of communication was English and the equipment they used was CU-SeeMe, which conveys the captured images and enables them to see the faces of each other.   Although it has a function of sending voices with a microphone, they had only text-based conversation.

According to Trappes-Lomax (2000), the characteristics of conversation as a type of communication are (*1)Sharedness, (2) Unplannedness, (3) Interactiveness, (4)   Expressiveness, (5) Visuality,   (6) Orality.*   We compare and contrast these characteristics of conversation and those of synchronous CMC drawn from our students by focusing on how far these characteristics match.

First, we examine some features of sharedness, unplannedness, interactiveness, and expressiveness in our data and we found our students use those conversational strategies.   Then, visuality and orality are discussed.

Although it appears to be hard for CMC users to convey orality and visuality compared to face-to-face communication, our students try to add their visuality and orality to CMC interaction. For example, they use three types of writing systems concerning orality and visiuality in CMC environment, i.e., Semasiographic, Logographic, and Phonographic.   These three are defined by Fouser et al. (2000).

For an instance of Semasiographic, our students use " ^^ " in order to express their happiness, and in order to show that they are not angry.   They use logographic strategies by repeating exclamation marks or question marks in order to show their nuances, spelling out with capitalization and using acronym "OMG" which stands for "Oh My God".   Also, we can see such phonographic instances as varying degree of loudness, creating rhythm, and oral accompaniments of speech ('hehe' for laughter).

Although our students experienced CMC in a relatively short time, we found that they used a lot of conversational strategies in text-based CMC.   We also found that there are some differences between CMC and FTF communication, since students can focus on typing mistakes and they cannot help using some graphic features in order to clarify their true intentions.   Therefore, we shall conclude that synchronous CMC shares the features of both conversation and writing.

While investigating our students' strategies, many students communicate with their partners by using limited vocabulary and formulaic expressions.   Therefore, teachers need to give them some instruction in order to enrich their active vocabulary and facilitate communication in English, although all of our students made themselves understood throughout CMC activities.

7.   Cross-cultural similarities and differences of pragmatic usages in requesting situations learned through CMC activities

We investigate whether synchronous CMC helps students to learn cross-cultural understanding.   In order to examine this, I present my own cross-cultural experiences learned through CU-SeeMe sessions when I was an undergraduate.   I compare and contrast pragmatic uses of requests among De La Salle University students in the Philippines, Korea University students in

Korea and Waseda University students in Japan by focusing on cross-cultural differences.   I hope that this case study will be able to illustrate how CMC activities can be used for socio-linguistics-oriented English Language Education at undergraduate level.

All Japanese subjects are my classmates and all Koreans and Filipinos are students participated in chat exchange with myself.   I asked my subjects to answer three discourse completion tasks (DCT).   All three tasks involve asking someone to do something and these DCTs were conducted in English.

In consequence, there are more similar results between Koreans and Japanese than between Filipinos and Japanese.   Koreans and Japanese tend to ask a friend to pay the money back indirectly, while Filipinos do directly.   When asking a neighbor to stop his or her children's making noises, Koreans and Japanese use "Simple request" instead of "Self-assertion" unlike Filipinos. "Consideration for others" was expressed by Koreans and Japanese, not by Filipinos.   When asking a junior not to be late, Koreans and Japanese tend to treat the junior more rudely and more intimately than Filipinos do, because most Koreans and Japanese address their junior with imperative forms, although Filipinos tend to ask more politely, such as "Could you please do something?"

Since this study is small-scale, there is no doubt that I need further research.   However, here I would like to emphasize how much cross-cultural differences and similarities can be gained though CMC activities in a short time even as an inexperienced undergraduate.   And such case study will be one of the good examples for students' tasks in the CMC activities

8.   Conclusion

Several merits of CMC can be summarized as follows:

(1)   CMC can provide a wide variety of ways of learning   (Herring, 1996),

(2)   CMC meets the demands of a current trend in Japanese education,

(3)   CMC helps learners to focus on linguistic forms than face-to-face communication does, thus enhancing more self-monitoring of one's language use.

(4)   CMC provides learners with purposes for genuine communication which traditional grammar classes or oral communication classes often fail to offer.

(5)   CMC can be used for sociolinguistics-oriented English Education,

(6)   and automation is possible in analyzing CMC data (Granger, 1998).

In order to ensure the maximum use of CMC for the advantages of the students in the EFL context, the following investigations will be necessary:

(1)   What kind of methods can be implemented to motivate Waseda University students in order to make them actively engage in CMC activities?

(2)   What can and cannot be achieved through the methods mentioned above?

(3)   As some researchers (Robb, 1996; Helland et al., 1999) point out, should not we focus on linguistic forms in the communication-based project?

(4)   In order to improve the students' language skills, communicative skills, and cross-cultural understanding, what kind of instruction has to be undertaken?

(5)　　　How can we assign partners? I would like to compare/contrast male-to-male, female-to-female and male-to-female interactions.

With these in mind, we can explore more effective and more practical CMC activities to facilitate students' spontaneous learning.

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