CMC for Language Acquisition and Intercultural Learning

Arash Dehghanian [1 +] , Mehdi Azizi [2]

[1,2] Young Researchers Club – Islamic Azad University – Maragheh Branch, Iran.

Abstract. This paper first describes some definitions of CMC to determine what it is. Then technologies of communication through computer medium and instructional design was discussed. After the applications of CMC especially in language learning such as collaborative learning was described. There after the application of CMC in language acquisition and intercultural learning was compared. At last, a new idea for future working in this area has been suggested.

Keywords: authentic experiments, epistemic engagement, epistemic discourse, intercultural learning, computer – mediated communication.

1. Introduction

CMC refers to computer mediated communication which has various definitions that has little differences, but they are in common in some features. Computer-mediated communication briefly refers to "those technologies used for communication where the computer plays a major part. It includes Newspapers, Chat rooms, E-mail, and computer-mediated conferencing. Often was abbreviated to CMC." [1]. There exist more extended definitions of CMC that will illustrate comparatively later.

CMC has many uses such as Internet training, searching, education, government, commerce, communication, language. This paper goal is to comparatively illustrate the use of CMC in language acquisition and intercultural learning. We will focus on concepts such as epistemic discourse, computer-supported collaborative learning (CSCL), Distance learning, and so on.

Language acquisition is divided two sections. The first discusses authentic instructional experience and the process of epistemic engagement. This acquisition is facilitated by a shift in instruction from abstract exploration language to dynamic authentic experience. The second part reviews research on the use of computer-mediated communications (CMC) technologies for engaging epistemic engagement along with a way of matching the most appropriate technology with the intended discourse goal [7]. The use of CMC for language learning can develop not only language skills but also intercultural communicative competence, lifelong learning skills and digital literacy for becoming active participants of the information society.

2. Definitions

There are some definitions of CMC that have a little difference from each other that some of them is described here. At first we begin with Dr. John December's definition that he has been using it for several years: it is not meant to be definition; it had been used as a working statement to explore the dimensions of what computer-mediated communication is and how to approach its study: "Since I do research on internet-based CMC, this definition is oriented to that context; but I don't mean to imply here that all CMC is internet-based. I believe that process context is the key themes in the study of computer-mediated communication."[6]. With Dr. December's definition Computer-Mediated Communication (CMC) is the process by which people create, exchange, and perceive information using network telecommunications

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[+] Corresponding author. Tel.: +989141772798
  E-mail address: arashserej@gmail.com.

systems (or non-networked computers) that facilitate encoding, transmitting, and decoding messages. Studies of CMC can view this process from a variety of interdisciplinary theoretical perspectives by focusing on some combination of people, technology, processes, or effects. Some of these perspectives include the social, cognitive/psychological, linguistic, cultural, technical, or political aspects; and/or draw on fields such as human communication rhetoric and composition, media studies, human-computer interaction, journalism, telecommunications, computer science, technical communication or information studies [6].

In the Wikipedia website the Computer-Mediated Communication (CMC) is defined as any communicative transaction that occurs through the use of two or more networked computers (e.g., instant messages, e-mails, chat rooms), it has also been applied to other forms of text-based interaction such as text messaging. Research on CMC focuses largely on social effects of different computer-supplied communication technologies. Many recent studies involve internet-based social networking supported by social software [5].

In general, CMC, is a process through that people can interact, exchange, perceive information, culture, thought, ideas, history, knowledge, mores and social issues with each other via computer medium networking by tools E-mails, Blogs, Wikis, Chat rooms, audio and video conferencing without considering various perspectives of CMC studies.

3. Education technology

Education technology can be considered either as a design science or as a collection of different research interests addressing fundamental issues of learning, teaching and social organization. There are few features that most researchers and practitioners might agree:

- Use of technology is principled: technology means the systematic application of scientific knowledge to practical tasks. Therefore education technology is based on theoretical knowledge drawn from different disciplines (communication, education, psychology, sociology, philosophy, artificial intelligence, computer science, etc.) plus experiential knowledge drawn from educational practice (Descryver)
- Education technology aims to improve education. Technology should facilitate learning processes and increase performance of the education system(s) as it regards to effectiveness and/or efficiency. [2]

3.1. Goals of Education Technology

Education technology research always had an ambitious agenda. Sometimes it only aims at increased efficiency or effectiveness of current practice, but frequently it aims at pedagogical change. Technology provides us with powerful tools to try out different designs, so that instead of theories of education, we may begin to develop a science of education. But it cannot be an analytic science like physics or psychology; rather it must be a design science more like aeronautics or artificial intelligence (Collins, 1992) [2].

4. Educational technologies

Educational technologies are technologies that are used in education. Basque and Lungren-Cayrol (2003) found and analyzed 24 different typologies of ICT usage in schools and proposed a "meta-typology" with three categories [3]:

- Typologies centered on the teaching/learning act
- Typologies centered on the school and educational actors
- Typologies centered on the learner

5. CMC use in language learning and intercultural interaction

First we will discuss about language acquisition which is divided two sections. The first section discusses authentic instructional experience and the process of epistemic engagement. Students who study a language are better equipped to encounter and to interact with other peoples by being sensitive to the cultural and social mores of this society. The second part reviews research on the use of computer-mediated

communication (CMC) technologies for engaging epistemic engagement along with a way of matching the most appropriate technology with the intended discourse goal.

Epistemic engagement is a technique which is dependent on using computer-mediated technologies to effect teacher-student and student-student interaction in authentic experiences. The idea is that "the learner engages in questioning, makes connections, draws inferences and validates learning" in an authentic context [7].

Authentic experience is an instructional assignment that has intrinsic relevance. Any authentic instructional activities must possess internal coherence and build on prior assignments also can be naturalistic and have external coherence to a student's real world contexts or problems. Authentic assignments require students to not simply react but to engage the content. Authentic experience encourages the students to cognitively engage the content by actively trying to make sense and to integrate the experience [7].

Next, epistemic discourse is collaborative discourse which student and teacher or student and student engage in an interaction that leads them to make meaning of the content and to incorporate it into their cognitive repertoire. An essential mechanism in the process of epistemic discourse is reflection which typically leads to a process of self-explanation. Reflection, discernment, and self-explanation are an individual's attempt to create meaning through the filter of their private interior language in an attempt to integrate new experience into prior knowledge.

A major hallmark of CMC is in its ability to remove the constraints of time and place that result in its anywhere-anytime flexibility. Individuals can exchange messages to one another privately and also post messages to public bulletin boards where anyone can read them. Hence, CMC technologies provide users to engage in public and private exchanges and interactions. For example in a chat room while one can carry on private chat can also continuing to engage the larger group.

The goal of epistemic engagement is that students reflect, discuss and disseminate their understandings of an instructional activity in an authentic context. In order to maximize the epistemic engagement, both the discourse task and the delivery technology should be matched.

Researchers studied the effect of e-mail as a tool on 12 classrooms in 10 elementary schools (Van der Meij, de Vries, Boersm et al. 2005). The results of the study by Van der Meij et al., supports the idea that there is a task to technology fit. Email typically creates a one-on-one, private asynchronous exchange and is a better for creating a reflective discourse. Similarly, another study explored the use of a blog as a system for collaborative writing. Krause conducted a study using a graduate writing class. For the study he created a collaboratively written blog space was a small part of the class. The blog was useful for individual short writing pieces but failed as forum for conversational exchange. From this study Krause (2004) concluded that blogs or similar web applications would have been matched.

The research shows that two design elements need to be considered in order to create a successful epistemic engagement. First, the instructional outcome must be clearly identified. Secondly it is necessary to match the intended discourse with the most appropriate and available software.

The first step of choosing software begins with the archival nature of CMC. Persistence allows for the retrieval, revision and revival of previous thinking or interaction. The social characteristic of the exchange is the next critical component in choosing the most appropriate software. If the exchange is one-on-one with the teacher the e-mail is the superior choice. However, by adding additional recipients, a blog would be a better choice. The key to selecting the most appropriate technology is to first design an epistemic discourse environment, then choose the mediating technology by focusing on the taxonomy of choice persistence, exchange, time and finally the audience. There is no single CMC technology that meets all of the functional and social requirements of each form of epistemic discourse.

In this section we briefly described the use of computer-mediated communication in language acquisition from Terence C. Ahern et al. 2008. Now we know that CMC remove the time and place constraints and the anywhere-anytime flexibility is a vital factor in creating authentic assignments. The real world problems and context through the computer medium can be reflected. In order to achieve success in use of CMC careful design of learning activity and choosing the most appropriate software is necessary. Computer-mediated

technology is not a single software application but many technologies that possess both functional and social characteristics that govern its design and impacts the effective deployment in the classroom i.e. there isn't single integrated software there are many software and instructors should select the most appropriate software for each epistemic discourse task.

In the next section we briefly discuss about how CMC can effect on the intercultural learning from Martina Möllering and Markus Ritter et al. 2008. Early studies in the field of CMC were focused on synchronous, written communication in the immediate context of the language teaching classroom, more recent definitions include synchronous as well as asynchronous, written as well as spoken, communication via computer i.e. recently research on CMC moved from the actual to the virtual e.g. transnational classroom.

Tandem language learning can be defined as a form of open learning where two learners with different languages form a partnership in order to practice and improve the language each is learning. This is described as a form of autonomous learning which focus on authentic communication with native speaker. Two people with different native languages work together in pairs in order to help one another improve their language skills but also to learn more about one another's culture and to exchange additional knowledge. As a result, a major part of process is the potential for intercultural learning. This is virtual classroom that students in it communicating transnationally.

In order to evaluation of intercultural learning in CMC we just mention some projects that are in Martina's paper. Recent publications on telecollaborative projects have directly addressed intercultural learning processes and outcomes. Furstenberg, Levet, English and Maillet (2001) report on the CULTURA project, a web-based, cross-cultural, curricular initiative "designed to develop foreign language students understanding of foreign cultural attitudes, concepts, beliefs, and ways of interacting and looking at the world" (p. 55).

In an effort to foster mutual understanding across French and American cultures, CULTURA offers a comparative approach that asks learners to observe, compare and analyze parallel materials from their respective cultures.

Hanna and de Nooy (2003) examined the varying success of four Anglophone students of French who were participating in a Web-based forum of the French newspaper Le Monde.

In a report on an e-mail exchange between Spanish and English second-year university language learners, O'Dowd (2003) identified key characteristics of e-mail exchanges which helped to develop learners' intercultural communicative competence.

The knowledge of culture specific patterns can help to have better interaction and cultural cognition of partners that leads to better intercultural interaction and learning as well as better language learning.

Telecolleboration projects have also shown a certain potential for developing autonomous learning. A number of telecommunication studies have stressed the importance of embedding e-mail exchanges into structured language learning environments thus providing a bridge between the classroom and the natural language setting (cf. Woodin, 1997). There are differences in students' expectations regarding grammatical accuracy, message length, and response time (Ware, 2005). Belz suggested that problems can be mostly avoided if both of teachers and students be aware of their partners' expectations.

The implications of learning and teaching are extensive issues and they have not been mentioned here. We just discuss about them briefly. The framework of analysis presented by O'Dowd and Ritter (2006) provides a useful structure for a discussion of teaching and learning issues in telecollaboration projects. Those issues exemplified with the use of data collected in the context of a German-Australian telecollaborative project, which has been running between 1999 and 2006 (Möllering, 2004, 2005; O'Dowd & Ritter, 2006). On (Martina Möllering, 2008) the discussion moved from socio-institutional level, through the classroom level, to the individual level. For more information regarding implications see [8].

6. Future Trends

There are many software such as e-mail, text and audio chatroom, audio and video conferencing, blogs and Wikis and so on that any of them is the most appropriate for particular epistemic engagement. For

matching each instructional task with most appropriate technology instructors must consider some factors. To solve this problem creating an integrated technology including such as e-mail, chatroom, blog or wiki that can adjust itself with what instructors or designers need, can help them to remove the choosing the most appropriate technology. It can be used for every instructional task and match with all kind of instructions with purpose of both language learning and intercultural interaction. This software should be run on the internet and can allocate special space on the internet for universities, colleges, institutions, organizations, NGOs, or even independent groups for education, interaction, discussion and discourse among several cultures, nations, countries with different or same language.

A new trend that can arrive in this field is the use of virtual reality integrating with CMC technology which can aim language learning. Virtual reality is software which can emulate the real world conditions, problems, contexts that user could interact with it similar real world. The abilities that can be imagine for virtual reality is like that learners can virtually place themselves in real positions and locations such as a park, garden, bus station, police station, zoo, museum, school, college, campus, and etc, hence they can observe, discuss and experience in such remarkable situations which makes learning of target language and culture more tangible, exciting, wonderful and enjoyable.

7. Conclusion

To date, the research on CMC-aided language acquisition shows a great potential, both for language and intercultural learning (Martina Möllering, 2008). As mentioned in this paper we understand that language acquisition without understanding of culture and mores of that society is impossible, therefore the aim of CMC in intercultural learning can help to improve language teaching and learning, hence there is a interconnectedness between language acquisition and intercultural learning. Although there is a particle difference between them, language acquisition take place between partners with same language that there is a tutor who leads them, but intercultural learning take place between partners with different language e.g. between an American participating and a learner from France without an instructor.

Although the use of CMC can help us to learn secondary language, it can help us to learn third and more languages with this approach that partners who have different native languages for example a student from France and a his/her partner from Germany that both of them knows English, then each of them help another to learn his/her native language, therefore both of them knows English as secondary language and attempt to learn another language (i.e. French or German) as third language. As this study indicates, implementing CMC in designing authentic experiences is not a trivial exercise, but it needs careful consideration both of the software and learning outcomes. For choosing the most appropriate delivery technology instructors require perfect understanding of intended discourse goal.

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