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THE IMPACT OF ASYNCHRONOUS INTERACTIVE PARTICIPATION OF  
STUDENTS ON THEIR LEARNING OUTCOMES IN  
AN INTERMEDIATE CHINESE LANGUAGE  
COURSE AT AN ONLINE HIGH SCHOOL

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PREVIEW

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PREVIEW

# CHAPTER I

## INTRODUCTION AND STATEMENT OF THE PROBLEM

### Background to the Problem

According to the report “Keep Pace with K-12 Learning” (Watson, Ryan, and Evergreen Consulting Associates, 2007), 42 states are offering online courses to high school students through the state virtual schools. This number is still growing. Of these, approximate eight states offer online courses of Chinese as a foreign language (CFL). It is apparent that the need for online CFL courses is increasing due to the fast expansion of the economy and the global influence of China. As a result, it is expected that an increasing number of online CFL courses will be offered to meet the demand in the near future. This emerging trend of the online Chinese language courses poses new challenges to the study of pedagogy and methodology of online teaching and learning of CFL. Consequently the effectiveness of online language learning inevitably becomes one of the most discussed topics.

Since the last decade, much research on online learning has explored the importance of interaction of teacher-learner, learner-learner, learner-content (Moore & Kearsley, 1996), learner-computer (Dalgarno, 2004), and learner-self (Soo & Bonk, 1998). Additionally, the nature of interaction has been one of the



most important areas of research in new (second) language learning (Warschauer & Kern, 2000).

Regarding the general term “second language learning”, the more updated term “new language learning” may be more appropriate. It is noted that many learners today may learn, for example, Chinese as a third or fourth language. In this paper, when it refers to the traditional second language theory, the term “*second language*” is kept; otherwise “new language learning” is used.

Although there are some similarities between online and face-to-face (f2f) instruction, educators increasingly recognize the unique role of interaction in online language teaching and learning. Vygotsky’s social-cultural theory suggests that learning is more a process of social interaction in which language learners interact with speakers of the target language (Cheon, 2008). White (2003) emphasized, “Interaction and participation are integral to the educational ideal of online learning communities within distance learning” (White, 2003, p. 57). The significance of this social aspect of learning is precisely the reason that the collaboration in online learning communities shows its vital role (White, 2003). With the assistance of a variety of interactive tools available online in a course, such as voice mail, voice board, wikis, blogs, podcasts, and online dictionaries, it is easy and convenient for language learners to interact with each other, to communicate with native speakers or language learners, and to access authentic material regardless time and locations. Moreover, meaningful social interaction makes language learning more relevant to learners as the ultimate goal

of learning a new language is, indeed, to communicate with speakers of the target language.

In the studies of second language acquisition (SLA), Krashen (2003) suggested the input hypothesis or later comprehension hypothesis. He simplified language acquisition process as “when we understand messages” (Krashen 1992, p. 4) either in the form of voice or written text. This input hypothesis focused on one-way interaction of a learner with the target language during the learning process. According to Krashen, the reaction to the input is the product of acquisition, but not part of acquisition. He further proposed an “ $i + 1$ ” formula to illustrate the acquisition process, where “ $i$ ” indicated a comprehensible input, and “ $i + 1$ ” signified a higher level of comprehensible input in the acquisition process. A comprehensible input may be packaged in different types of media, but the messages must reach learners, and the learners must process the messages and react to them. Later, the interaction hypothesis of SLA argued that simply understanding the input message may not be sufficient. Long (1996) emphasized the facilitative roles of negotiation of meaning and negative feedback in second language (L2) development. Negotiation of meaning refers to the language learning process during which a learner makes efforts to verify what he or she hears in a discourse, as well as to make sense of what he or she wants to say in the conversation. Negative feedback refers to the language clarification process that is initiated by a negative response. All types of interaction occur in online language learning settings through communication tools such as audio

recordings of voice mail and voice board, or written messages in the e-mail, discussion board, and other media. The essential issue, however, is whether the input offered in an online course is comprehensible, and at the same time, whether the course is designed and structured in a way to promote interaction to allow the negotiation of meaning to take place.

The basic mechanism of online language learning is not more different than that in a f2f setting. It is, therefore, important to investigate in depth the online language learning by further understanding the significance of asynchronous interaction in such learning.

Online learning involves two types of interaction: synchronous and asynchronous interactions. Synchronous interaction requires immediate feedback or response. Both parties should be present and communicate simultaneously at a given time and location. Asynchronous interaction, on the other hand, does not require immediate response. The interaction can occur at a different time and different places. In a typical distance learning setting, language learners tend to spend a great deal of time on practicing and exercising without synchronous interaction with instructors or other learners. Earlier studies showed that the role of asynchronous interaction in online learning has been increasingly investigated (e.g., Kitade, 2008; Ng, Yeung & Hon, 2006; Spiceland, 2002; Wu & Hiltz, 2004). Most of the findings favor the role of asynchronous interaction in the learning process. The study of Wu and Hiltz (2004) revealed the positive relationship between the perceived learning and the

participation in online asynchronous discussions. In addition, they found that a student who believes he or she is benefiting from the learning in a course tends to participate more in discussion. In a graduate course that was completely delivered online, Picciano (2002) examined the correlation between the number of student discussion postings and the performance on exams. He found a positive correlation, but it was not statistically significant. Another finding in his study suggested that the group with the high participation rate in the discussion had the highest scores in written assignments. This finding was further supported by what Hafner and Ellis (2004) indicated, “Tools ranging from threaded discussion boards and e-mail to dedicated systems have been developed to promote asynchronous collaborative learning activities” (p. 7). These Asynchronous Computer-Mediated Communication (ACMC) tools include threaded online discussion, voice and text e-mail messages, wikis, blogs, and assignment postings. With these tools, language learners are now enabled to actively engage in interactions with a wider range of interlocutors because these interactions are both place-independent and time-independent (Kitade, 2008). Kitade further concluded, “The unique interactional features of ACMC are considered to facilitate second language learning” (p. 64). Evidently, the advantage of asynchronous interaction is that learners can participate and respond at their convenience (White, 2003). Learners are no longer bounded by the time or by availability of the instructors in many cases, or by the locations as long as the learners have access to the Internet. As a result, learners have more time to think

and reflect before they respond. The flexibility of online learning facilitates the language learning in terms of language organization (thinking and reflecting) and presentation (language output). In fact, Kitade also admitted that the time delay in asynchronous interaction “may enhance the reflective process” (p. 65). Young (2008) proposed to develop an asynchronous discussion structured in a way to promote learning outcomes that were measurable and tangible. The results from her study demonstrated significant correlations between the discussion postings and the exam scores.

Online Chinese language learning is a recent phenomenon. In the field of learning Chinese as a foreign language (CFL), learning Chinese characters has been considered to be a big obstacle. Wang (1998) conducted an extensive study on teaching Chinese and Chinese characters. She noticed the great challenge of teaching and learning Chinese characters “*hanzi*” in all levels of Chinese classrooms. Chinese written scripts consist of morphosyllabic characters. Different from romance languages, two main characteristics of Chinese characters are their close connection between form and meaning, but there is a weak link between form and pronunciation, although radicals in some characters may help solicit meanings and pronunciation. Wang emphasized the role of visual-spatial processing in learning Chinese characters after reviewing related studies (1998). She further concluded that *hanzi* (Chinese characters) processing relied heavily on visual coding, and involved phonological mediation (Wang, 1998). The evidence of this finding is the frequent use of visual aids in learning Chinese

characters, such as flash cards, posters, and other multimedia materials. Can Computer-Assisted Language Learning (CALL) assist in this learning process? It is important to investigate the effects of online interaction in learning Chinese characters.

A general practice of starting a regular beginner Chinese course is to learn the *pinyin* system, a roman alphabet-based pronunciation guide to Chinese characters. *Pinyin* enables the learners to learn not only the pronunciation of *hanzi*, but also to type the characters. With the assistance of this pronunciation system, computerized Chinese character input systems were developed. Nowadays, users can type Chinese characters using this kind of roman alphabetic system. When a learner types a *hanzi*, he or she first enters the pinyin (i.e. the pronunciation) of the *hanzi* via the keyboard, the computer displays a list of one or many Chinese characters that match the pinyin. The learner needs to recognize and select the correct character from the list. This process from pronouncing, key-entering, recognizing, and selecting provides the opportunity to connect the sound (pronunciation) and visual presentation of a character. It is reported that ACMC facilitated and improved the online CFL learning by connecting phonology to the form of the characters (He, 2005; Wu, 2007; Xu & Jen, 2000). He (2005) conducted a survey among college-level Chinese language learners and found that 65% considered writing the characters to be the most difficult task in learning Chinese. After experimenting in his classes with Computer-Assisted Language Learning (CALL) methods (Chinese input), He

observed gains in the students' performance of learning and recognizing Chinese characters (He, 2005). Although the study was conducted in a small scale, it still demonstrated the substantial impact that learner-computer interaction might have on learning the characters and learning Chinese as a whole

Nevertheless, there remain many concerns about online language learning. The separation between instructor and learner generates a feeling of isolation (Grigoriadou & Papanikolaou, 2000). Kitade's (2008) study commented that the asynchronous nature of interaction might reduce the opportunities for scaffolding in the context of collaborative learning. Scaffolding is a language teaching strategy that employs successive steps to complete a learning task with the assistance of instructional guidance or a computer program in the case of CALL. Because of the unique characteristics of asynchronous interaction: time-independence and place-independence, scaffolding steps may not be as easily performed in an online setting as in a f2f setting. As a result, learners may spend more time working on tasks on their own. Nevertheless, the same learning objectives can be achieved in a distance learning setting as in f2f settings.

Despite the fast emergence of instructional technology, some educators have expressed reluctance of using technology tools. In this respect, the traditional f2f language instructional approaches still heavily influence the ways the online language instruction is designed and conducted. This may have posed a negative impact on the effectiveness of asynchronous interaction. Consequently, the lack of initiatives to embrace non-traditional methods and

strategies to enhance asynchronous interaction has introduced barriers to effective online language teaching and learning. In order to address these issues, it is necessary to review two fundamental questions about Computer-Assisted Language Learning (CALL) proposed by Chapelle (1997):

- a) What kind of language does the learner engage in during a CALL activity?
- b) How good is the language experience in CALL for L2 learning?

Much research that followed these two guiding questions to tackle the issues in online language learning is also applicable to this study. Considering the fact that a very limited amount of research has been done for the population of teenage students in high school settings, this study intends to address the issues of asynchronous interactivity within this population. It is imperative, in this study, to also identify what effective elements in asynchronous interactive participation are and to investigate how these elements affect new language learning, specifically Chinese as a foreign language (CFL). “It is worth asking the question: what will help teachers more effectively implement asynchronous discussion tools to greater educational consequence” (Watson, 2008, p. 1). Chen, Liu, and Wong (2007) conducted a study to investigate how language instructors could use synchronous and asynchronous Information Communication Technology (ICT) as a medium to enrich their new language lessons in a meaningful and effective manner based on Krashen’s (1987) five hypotheses of second language acquisition theory. They suggested only one method, either