Can Video-Conferencing Mediated Learning Improve Students' Oral Performance? A Study on a Learning Chinese as Foreign Language Program

Chiayi Chen, Kainan University, Taiwan
Yan jin Pan, National Chiayi University, Taiwan

The IAFOR Conference for Higher Education Research – Hong Kong 2018
Official Conference Proceedings

Abstract
The researchers conducted a distance video-conferencing instructional design in which 45 Chinese language learners in the US and 26 Chinese language pre-service teachers in Taiwan completed a series of collaborative assignments together. Under this video-conferencing design, Chinese language learners could exercise the target language, and Chinese language pre-service teachers could also practice teaching foreign students. The pre oral-test scores of students in the control group (mean=71.10) were larger than those of the students in the experimental group (mean=62.62) but the difference was not statistically significant. After the treatment, the students in the experimental group(mean=87.77) outperformed significantly those in the control group(mean=79.27) on the post oral- test at the level .05 and t[42]=-2.351, p=.02. The result of this study showed within a designed video-conferencing environment, Mandarin Chinese language learners working with their native speaker teammates performed better on the post oral-test than the control group, who worked on the assignments with teammates in traditional classroom.

Keywords: distance learning, video conferencing mediated learning, learning Chinese as a foreign language, Computer assisted language learning

1.Introduction

Chinese Mandarin is the most spoken language in the world and has become one of the dominant languages in the world in past decades. To deal with the urgent needs of Chinese language learning, Learning Chinese as Foreign language(CFL) programs in non-Chinese speaking countries and teaching Chinese as a Foreign Language (TCFL) programs in Chinese-speaking countries have been growing rapidly all over the world in the past decades. And it was found that both CFL programs and TCFL programs were facing the similar challenges. Most learners in a Chinese as a foreign language (CFL) setting have limited opportunities to practice Chinese (Wu & Tsai, 2008) while the pre-service teachers in TCFL programs have narrow chances to teach foreign students in the Chinese-speaking countries (Tsao, 2007). The Chinese language learners need more Chinese language and cultural exposure for better Chinese learning outcomes. Vice versa, Chinese pre-service teachers in TCFL programs need sufficient Chinese teaching practices with foreign students to develop their teaching competence. In order to find the solution of this challenge, the researchers in this study utilized the framework of video-conferencing instructional design to integrate these two educational main streams and needs.

The aim of this study was to break through the boundary that restricts Mandarin Chinese learners and Mandarin Chinese teachers from contacting each other via the use of online conferencing and communication tools. In this article, the effects of video-conferencing instruction on students' oral performance in a CFL program are presented.

2.Literature review

Computer-Mediated Communication (CMC) allows for two types of online communication: synchronous communication (SCMC) and asynchronous communication(ACMC). For the purpose of this study, video-conferencing is framed under the principles of synchronous communication tools. Hung and Higgins (2016) paired six Chinese-speaking learners of English and six English-speaking learners of Chinese as learning dyads. Each dyad experienced four kinds of interaction: English text-based SCMC, Chinese text-based SCMC, English video-based SCMC and Chinese video-based SCMC. Their findings were consistent with the previous literature: while text-based SCMC enhanced the learners' attention to the language forms, video-based SCMC improved their target language fluency and pronunciation.

Video-conferencing can promote the instant interaction of the meeting members. Due to its features such as online presentations, video, screen-sharing, sharing of resources, polling, and chatting, video-conferencing tool increasingly popular in education. A number of studies have confirmed that learners enjoy using video conferencing, and its use is positively correlated with learning outcomes and students' satisfaction. Huang and McConnell (2010) studied the use of video-conferencing in higher education and found that it was correlated with learners' satisfaction. The frequent interactions in conferencing environments were also found to be correlated with students' satisfaction with online classes (Kuo, Walker, & Abas, 2010). When video conferencing was implemented to supplement traditional language courses, it led to higher academic scores (Charbonneau-Gowdy & Cechova, 2009) and increased the quality of the learning experience (Bower, 2009). Kristi, Graaff, Bergh and Kriz

(2012) conducted a quasi-experimental study without a control group to study that 36 Dutch language learners and 35 pre-service Dutch teachers engaged in a meaningful interaction with each other via synchronous video-web communication. It was found that foreign language learners' interaction with native speakers could have a positive impact on the motivation of learners.

Recently, some educational reviews indicated that there is still much to be studied in the area of Computer assisted language learning(CALL). These educational scholar thought the existing literature on the effectiveness of technology used in language education is narrow in three aspects: a) The languages studied are limited to Western European languages, especially English, b) the studies conducted focus on higher education and adult learners, and c) the CALL research lacks systematic investigation of the key factors that may increase the effectiveness of foreign language learning (Felix, 2005; Golonka, Bowles, Frank, Richardson, & Freynik, 2014; Stockwell, 2007; Zhao, 2003). In response to the above gap of the current CALL research, this researchers in this study aim to study the effectiveness of video conferencing application on high school students' oral abilities.

3. Method

3.1 Background

One of the researchers was a professor working in a teaching Chinese as a Foreign Language (TCFL) in a university in Taiwan, and her students, native Chinese speakers, were training to be TCFL teachers. The other researcher was teaching Mandarin Chinese in middle and high schools in the US. In order to provide the Mandarin Chinese language learners with opportunities to practice the target language, and to provide the TCFL pre-service teachers with practice teaching foreign students, these two researchers designed a video-conferencing program in which the pre-service teachers tutored the Chinese learners to complete a series of assignments via online communication tools such as Skype. This program involved 26 pre-service teachers enrolled in a TCFL course in a university in Taiwan, and 45 teenagers taking Chinese courses in middle school and high school in the US. These teenagers have taken at least one-year Chinese courses and they were taking Elementary Chinese-1 class while recruited in this study.

Among the video-conferencing software, Skype had been the most prevalently used by the majority of the experimental group students and pre-service teachers. Only 6 students in the experimental group and 10 pre-service teachers never used Skype before the treatment. Therefore, the researchers chose Skype as the main tool for web-conferencing. Every teenager in the experimental group was randomly assigned with one pre-service teacher in Taiwan. The students in the control group discussed the assignment with their classmates in Mandarin Chinese and the Mandarin Chinese teacher would check out if there is any group need assistance. In the experimental group, students worked with their tutor in Taiwan to complete a series of assignments via Skype video-conferences. Since there were more students than teachers, the Chinese language pre-service teachers were assigned more than one student. However, they had to assist each student separately to complete the assignments via the video-conferencing software, Skype.

3.2 Research question

The aims of this study were to understand the effectiveness of the video-conferencing instruction and to identify key confounding variables in the video-conferencing environment. Therefore, the research questions (RQ) in this study are listed as follows:

> RQ: Would this distance video-conferencing program have postive impacts on students' oral performance?

3.3 Research design

This study utilized a two-groups experimental design. Among recruited 45 Chinese language learners, twenty-one students were assigned to the video-conferencing group. The remaining 24 US students were assigned to the control group. In order to answer if the experimental group outperformed the control group after the intervention, the two groups' Chinese language pre-test and post-test results were compared. The research flowchart is detailed in Figure 1.

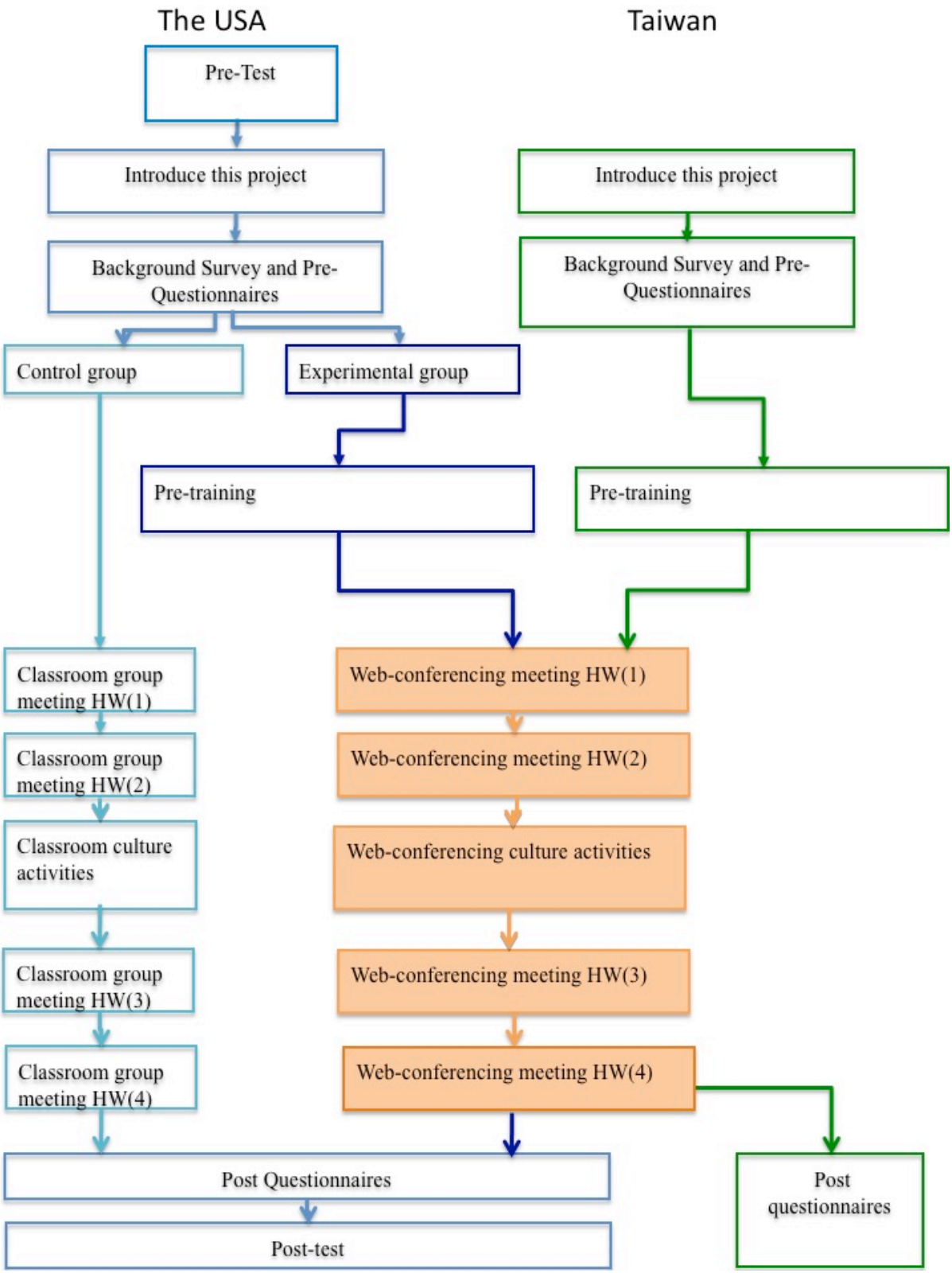

Figure 1: research flowchart

3.6 Data Analysis

Data analyses were performed after the data collection. Analysis of the control and experimental groups' pre- and post-test scores was performed using independent two-sample t-tests. All analyses were performed using the SPSS software version 22.

4. Results

In order to answer RQ, the academic performance of the experimental and control groups was compared. It was found that the average of the pre-test for the control group was 71.10 (SD=20.86) and that for the experimental group was 62.62 (SD=16.09). A test was run and found no significant difference, which indicating that the two groups had similar performance on the pre-test. After the intervention, an post-test was conducted. The mean of post-test for the control group was 79.27(SD=14.24), which is significantly different from the mean of interim test for the experimental group(M=87.77, SD=8.84), $t(38)=-2.35, p<.05$. Therefore, the students in the experimental group significantly outperformed those in the control group in terms of their test scores. This indicates that our intervention could improve students' oral performance.

Table 1. Pre- vs. Post-test score comparison.

	Control (N=20)		Experimental (N=20)		
	M	SD	M	SD	t-test
Pre-test	71.10	20.86	62.62	16.09	
Post-test	79.27	14.24	87.77	8.84	-2.35*

what * means and the p-level of significance.

5. Conclusion and implication

The current CALL researchers reviewed the current CALL studies and found that CALL research limited to the studies of Western European language, adult participants and higher education. (Felix, 2005; Golonka, Bowles, Frank, Richardson, & Freynik, 2014; Stockwell, 2007; Zhao, 2003). In response to the above gap of the current CALL research, the researchers in this study researched the effectiveness of video conferencing application on high school students' Mandarin Chinese learning. Based on the results of this study, the video-conferencing program had a positive impact on the Chinese language learners' oral performance. Within a designed video-conferencing environment, Mandarin Chinese language learners working with their native speaker teammates performed better on the oral test than those who had practiced in a group in class.The result of this study can contributes to the current insufficient CALL literature. The finding is also consistent with the study of Hung and Higgins (2016) that video-based SCMC improved learners' oral performance in target language. The well-designed video-conferencing with native speaker can save foreign language learners' traveling time and expenses. Besides, it can be used to reduce the students' stress for the target language cultures and societies before they are going to travel to the target language countries.

References

Bower, M. (2009). *Learning Computing Online – Key Findings From Students*. Paper presented at the EdMedia: World Conference on Educational Media and Technology 2009, Honolulu, HI, USA. https://www.learntechlib.org/p/32082

Boyd, D. (2007). Why youth (heart) social network sites: The role of networked publics in teenage social life. *MacArthur foundation series on digital learning–Youth, identity, and digital media volume*, 119-142.

Charbonneau-Gowdy, P., & Cechova, I. (2009). Moving from Analogue to High Definition e-Tools to Support Empowering Social Learning Approaches. *Electronic Journal of e-Learning, 7*(3), 225-238.

Felix, U. (2005). Analysing Recent Call Effectiveness Research--Towards a Common Agenda. *Computer Assisted Language Learning, 18*(1), 1-32.

Golonka, E. M., Bowles, A. R., Frank, V. M., Richardson, D. L., & Freynik, S. (2014). Technologies for Foreign Language Learning: A Review of Technology Types and Their Effectiveness. *Computer Assisted Language Learning, 27*(1), 70-105.

Huang, H.W., & McConnell, R. (2010). *The relationship between synchronous Web conferencing and course satisfaction in a blended online class.* In Gibson, D. & Dodge, B. (Eds.). *Proceedings of SITE 2010--Society for Information Technology & Teacher Education International Conference.* Paper presented at the Society for Information Technology & Teacher Education International Conference,San Diego, CA, USA(pp. 546-551). Chesapeake, VA: Association for the Advancement of Computing in Education (AACE).

Hung, Y.W., & Higgins, S. (2016). Learners' use of communication strategies in text-based and video-based synchronous computer-mediated communication environments: opportunities for language learning. *Computer Assisted Language Learning, 29*(5), 901-924.

Kristi Jauregi , Rick de Graaff , Huub van den Bergh & Milan Kriz (2012) Native/non-native speaker interactions through video-web communication: a clue for enhancing motivation? Computer assisted language learning 25(1)

Kuo, Y., Walker, A., & Abas, Z. (2010). The effect of student interactions and Internet self-efficacy on satisfaction in two synchronous Interwise course sessions. *Proceedings of Global Learn Asia Pacific*, 4242-4246.

Phillips, E. M. (1992). The effects of language anxiety on students' oral test performance and attitudes. *Modern Language Journal,76*, 14-26.

Stockwell, G. (2007). A review of technology choice for teaching language skills and areas in the CALL literature. *ReCALL: the Journal of EUROCALL, 19*(2), 105.
Tsao, F.-F. (2007). 臺灣華語文教學師資培訓. In H. Ko & D.-a. Ho (Eds.), *華語研究與教學: 四分之一世紀的回顧與前瞻* (pp. 557-591). Taipei: World Chinese Language Association.

Wu, H., & Tsai, D. (2008). *書本, 軟體, 視訊三合一數位商務華語教學實證研究*. Paper presented at the 5th International Conference and Workshops on Technology and Chinese Language Teaching, Macao, China.

Zhao, Y. (2003). Recent developments in technology and language learning: A literature review and meta-analysis. *CALICO journal*, 7-27.

Contact email: westside6a@gmail.com