

Chinese Language Learning and Teaching through Desktop Videoconferencing (运用桌面视频会议之汉语语言教学与习得)

Sung, Ko-Yin
(宋可音)
Utah State University
(犹他州立大学)
koyin.sung@usu.edu

Cheng, Hsiu-Jen
(郑琇仁)
National Kaohsiung Normal University
(国立高雄师范大学)
hsiujen@gmail.com

Abstract: This study aimed to investigate the language teaching and learning which occurred via one-on-one desktop videoconferencing (DVC), and the tutors' and learners' opinions about the online sessions. To be specific, the research questions posed are: (1) What types of instructional feedback do DVC tutors employ, and how do they affect learners' responses? (2) What is the rationale behind the use of different types of instructional feedback in DVC?, and (3) What are students' perceptions toward online language learning through DVC? Participants included 12 pre-service teachers in Taiwan and 12 college learners of Chinese as a foreign language in the United States. The study results show that repetition is the type of instructional feedback used most frequently in the online sessions while picture prompts were least used. In addition, this study found that certain types of instructional feedback yielded more learner responses than other types. Furthermore, the pre-service teachers' teaching reflections reveal that they had particular reasons for using certain types of instructions in a given context. Finally, the majority of the learners in this study spoke highly about the desktop videoconferencing project; however, they also indicated that there was room for improvement for future projects.

摘要: 本研究旨在调查一对一桌面视频会议的语言教学和学习, 以及教师和学生在线课程的意见。此论文的研究问题包括: (1) 桌面视频会议教师使用什么类型的教学反馈, 以及它们如何影响学习者的反应? (2) 教师在桌面视频会议中使用不同类型之教学反馈背后的理由是什么? 以及 (3) 学生对桌面视频会议学习语言的看法为何? 参加者包括台湾 12 名职前教师和 12 名学习中文的美国大学生。研究结果发现, 重复是在线会话中最常使用的教学反馈类型, 而图片提示使用最不频繁。此外, 这项研究结果指出, 某些类型的教学反馈比其他类型更容易引起学习者的共鸣。另外, 职前教师的教学反思表示, 他们有特定的理由在特定情况下使用某些教学反馈类型。最后, 本研究中的大多数学习者对桌面视频会议项目给予了高度评价; 然而, 他们也表示未来的桌面视频会议项目仍有改进的余地。

Keywords: Chinese language acquisition, desktop videoconferencing, Skype

关键词: 汉语习得, 桌面视频会议, 桌面视频会议工具

1. Introduction

With technology rapidly evolving in the 21st century, it is common to see educators utilizing technology tools to aid in language learning activities. One type of frequently used technology tool is synchronous computer-mediated communication (SCMC). Often seen as an effective way to enhance learners' communication skills, SCMC creates a real-time environment which increases learners' motivation in communication with others in the target language (Yamada, 2009). SCMC studies in the past 20 years have identified many benefits of the use of SCMC in language learning. To name a few, when compared to face-to-face communication, SCMC better promotes equal turn-taking among interlocutors in the target language, helps learners produce more speech, increases introverted learners' participation in discussions, and reduces learners' anxiety levels (Abrams, 2003; Beauvois, 1998; Kelm, 1992; Warschauer, 1996). Although SCMC is not without any drawbacks such as learners feeling under pressure to produce language quickly and being inflexible in terms of online meeting time (learners must set a specific time to meet online) (Levy & Stockwell, 2006), the advantages of SCMC are seen as outweighing the disadvantages. However, most SCMC studies have focused on the effects of either voice, text, or a combination of voice and text communications on language learning. A newer type of SCMC, desktop videoconferencing (DVC), which provides real-time video, audio, and text transmissions between two or more locations, is a relatively less researched area in terms of its effects on language learning and teaching. Since the early 2000s, the number of people who use free videoconferencing Voice over Internet Protocol (VoIP) tools, such as Hangouts and Skype made available by major technology companies on desktops and mobile devices, has been quickly growing (Kozar, 2012). The availability of such tools has also attracted language educators to employ them for teaching. Although DVC tools make communication with speakers at a distance possible, and communication through DVC is seen as similar to face-to-face communication, Kern (2014) cautions that "various forms of technological mediation introduce important differences from face-to-face interaction" (p. 98). Therefore, investigations are much needed on the under-researched type of SCMC, namely DVC, and how it influences second language learning and teaching. By focusing on the investigation of DVC, this study intends to contribute new findings to the SCMC research field.

2. Theoretical Framework

This study is grounded in the interaction theory of language development, which argues that second language acquisition occurs as a result of interaction. As Bates (1997)

describes, interaction could be an individual or a social activity. Interaction occurs as an individual activity when a learner uses a learning medium (e.g. a book or a computer program) to learn. On the other hand, interaction is considered a social activity when a learner interacts with others via learning medium. Before the technology boom, social interaction was mostly thought of in a face-to-face mode. However, when technology rapidly developed in the 21st century, a new kind of social interaction named technologized interaction, referred by Hutchby (2001) as telephone- or computer-mediated human to human interaction, has broadened the scope. Technologized interaction can be categorized into three types: written, oral, and oral-visual (Wang, 2004). Amongst the three types, oral-visual interaction is considered the highest level of computer-mediated interaction; however, it is also the most under-researched type. This study looked into how teaching and learning occur in oral-visual interactions through DVC.

3. DVC and Second Language Learning and Teaching

Previous studies investigated the use of DVC in second language acquisition in a few areas: (1) exploring the use of DVC, (2) the effectiveness of using DVC, and (3) teachers' perspectives toward DVC. The rest of the section briefly reviews the studies and teases out the DVC research areas that are still needed in the second language acquisition field.

3.1 Exploratory Studies

Some of the existing studies on second language teaching and learning through DVC are exploratory in nature. These studies tried to get an idea of how DVC tools are used in language education. For example, Hampel and Stickler (2012) explored German language teacher-student interaction in a DVC environment and reported a few common topics including greetings and farewells, discussing technology issues, negotiating meaning for the learning and teaching tasks, off-task conversations among students, and teacher feedback. In Algeria, Bensafa (2014) also conducted an exploratory study on the role of DVC in language education and identified two factors, namely interaction and motivation, as the key factors to a successful DVC experience. As language teaching through DVC is still at a fairly early stage in Algeria, Bensafa also mentioned the importance of having well-equipped hardware for videoconferencing and sufficient bandwidth to minimize possible delays during videoconferencing.

3.2 The Effectiveness of DVC

A few studies investigated the effects of DVC tools on language learning using different types of evaluation criteria. For example, Charbonneau-Gowdy, Cechova and Kriz (2009) examined the effectiveness of a DVC tool designed by a Canadian company used between a group of English language learners in Czech Republic and an English teacher in Canada. The study results showed that the learners not only gained more language knowledge, but also became more empowered and self-directed. With a focus

on language performance in DVC, Yamada's (2009) study involved 40 English as a foreign language (EFL) Japanese college students and found that the use of voice and images in DVC enhanced the students' learning performance in terms of turn-taking and self-correction frequencies. In the Netherlands, Canto, Jauregi and Van den Bergh (2013) compared three modes of communication (DVC, gaming, and face-to-face) and their effects on language learning involving college learners of Spanish. The researchers concluded that the experimental groups which used the DVC and gaming modes outperformed the control group on their oral proficiency test. They also found that the experimental groups reported being more motivated and gaining more inter-cultural awareness and confidence. In a different study, Cheng and Zhan (2012) found that learning through DVC enhanced the learners' understanding of the content; however, they also cautioned that overusing multimedia may cause instructional obstacles and claimed that developing abilities that link technology tools with instructional goals was the key to online teaching success.

3.3 Teachers' Perspectives on DVC

Teachers' experiences with, and perspectives on, DVC were investigated in a few studies. Eröz-Tuğa and Sadler (2009) invited a group of language instructors to test and evaluate six DVC tools. The results indicated that the teachers ranked MSN Messenger and Skype as their top two tools for both language teaching and personal communication. Another study focusing on teachers' perceptions is Guichon's (2010) investigation of online teachers' experiences of using DVC in language teaching. In order to build a DVC platform for language teaching, Guichon examined the teachers' comments about the difficulties they encountered when teaching via DVC, the strategies they used to try to overcome the difficulties, and the suggestions they provided. The results illustrated that most of the difficulties found were technical and that the strategies identified and the suggestions provided later were mostly tied to addressing the technical difficulties found.

In summary, the existing studies on DVC have identified different genres in teacher-student interactions and found positive psychological and language learning outcomes after using DVC. Moreover, current literature also touched upon teachers' opinions about DVC including the particular DVC tools they preferred to use and pedagogical issues related to DVC. After a review of the literature, a couple points are apparent. First, although many aspects of DVC have been studied, the quantity and the context of the studies are not large and wide enough to make generalizations in all language learning contexts. A call for more research in all aspects of DVC is needed. Second, it seems that one aspect most lacking in the DVC research is an analysis on how actual teaching and learning occur in interactions in DVC, such as Kozar's (2015) study not mentioned in the literature review above. Kozar did a thorough investigation on the interactions of six tutor-learner dyads in a private online English language learning school and found that even though the learners were highly satisfied with the DVC sessions with their tutors, the analysis of the actual interactions illustrated that the instructions were not of good quality. There was no preparation for the lessons, and the interactions were mainly in recursive question-answer sequences, in which the learners were inclined to answer questions, but not initiate exchanges. As Kozar stated, "As the

social practice of teaching language online via audio/videoconferencing tools continues to grow, there is a clear need to understand the dynamics of this practice and its effect” (p. 98). While Kozar’s study has provided some understandings of the nature of teaching and learning interactions in the context of a private online language school, more work is yet to be conducted in relation to the varying teaching contexts. Although the current literature showed that language learning outcomes in DVC are positive, without a close analysis of the actual teaching and learning episodes which occur in DVC, no constructive teaching or learning suggestions can be made to improve DVC language instruction. Hence, this study seeks to fill in the research gap by investigating teaching and learning episodes in DVC, and what online teachers and learners think of teaching and learning via DVC.

4. Research Questions

The research questions are as follows.

- (1) What types of instructional feedback do DVC tutors employ, and how do they affect learners’ responses?
- (2) What is the rationale behind the use of different types of instructional feedback in DVC?
- (3) What are students' perceptions toward online language learning through DVC?

5. Methods

5.1 Participants

Participants in this study include 12 Taiwanese tutors and 12 American learners of Chinese as a second language. The Taiwanese tutors were pre-service teachers taking an undergraduate introductory language teaching course in a teacher-training university in Taiwan. Half of them had no previous language teaching experiences while the other half had taught English as a second language to young learners for a few months. The American learners were taking an advanced Chinese conversation course in a state university in the southwest United States. The tutors all majored in education with different concentrations. As for the learners, half of them were business majors (e.g. Accounting, International Business, and Marketing) while the rest majored in different disciplines such as American or Asian Studies, English, Global Communication, and Mechanical Engineering. The age range of the participants was between 19 and 24. All participants had prior experience with a DVC tool such as Skype used in this study. However, all of the participants used it as a personal communication tool except for one learner who used it to take an online language course.

With respect to the American learners’ Chinese learning background, all of them were native speakers of English who had studied Chinese for three to four years. Even though the learners had similar lengths of time studying Chinese, their prior learning

experiences before coming to the conversation course were significantly different. Five of the 12 learners spent two years in a Chinese speaking community abroad for a religious mission while the rest of the learners studied Chinese in a typical language program at a university in the western United States. Because of the distinctive learning experiences, the learners' self-rated Chinese proficiency level and comfort level speaking with Chinese native speakers were divergent. Table 1 shows that some participants believed their Chinese was still at the beginning level while some thought they were at the intermediate level, and only a few considered their Chinese proficiency to be advanced.

Table 1: Self-rated Chinese proficiency level

Proficiency Levels	# of Learners
Beginning High	3
Intermediate Low	2
Intermediate Mid	3
Intermediate High	2
Advanced Low	1
Advanced Mid	1

Table 2: Self-rated comfort level speaking with native speakers

Comfort Level Speaking with Native Speakers	# of Learners
Comfortable	3
Somewhat Comfortable	3
Somewhat Uncomfortable	3
Uncomfortable	3

Table 2 illustrates that the participants felt differently when speaking with native speakers. The number of participants who felt comfortable, somewhat comfortable, somewhat uncomfortable, and uncomfortable speaking with native speakers was spread out evenly. This could be a result of some of the participants reporting that they frequently (e.g. every day) talked with native speakers while others reported seldom conversing with native speakers (e.g. once a month) in a survey they completed after the DVC project ended.

5.2 Procedure

Before the semester began, the instructors in Taiwan and the United States set up three 30-minute one-on-one DVC sessions for the Taiwanese students to practice teaching and for the American students to review materials taught in class. These DVC sessions were designed as class assignments. The theme for the first session was related to the first movie seen in the Chinese conversation class named, *Sorry. I love You*. The second session was designed to review Chinese dining etiquette knowledge taught in

class. The third session was related to the movie, *Hear Me*, a second movie seen in the conversation class. The Taiwanese tutors are all knowledgeable about Chinese dining etiquette as it is embedded in the culture they practice in their daily life. In addition, the tutors were asked to finish watching the two movies before the review sessions for those movies. A few weeks before the project started, the instructors helped each dyad set up the meeting time for each session and recorded the schedule on Google Docs, which could be accessed by all participants. The participants also exchanged email address information for easy communication, such as when the tutors needed to send out reminders to the learners about their meetings or in case a meeting time needed to be rescheduled. The first session occurred mid-semester, and the consecutive sessions occurred every other week after the first session. Before each session, the tutors were required to prepare for the online teaching by creating their own teaching materials using PowerPoint, and explain it to the instructor and their classroom colleagues in Taiwan. For the two movie sessions, the tutors were expected to first review the content of the movie to ensure the learners had reached a certain level of understanding. Next, the tutors would focus on discussing the Chinese culture observed in the movie. For example, the tutors pointed out certain body language and ways of expressing oneself in the movies and explained how they were related to the way Chinese people expressed love. For the Chinese dining etiquette session, the tutors were to briefly review the materials taught in class (the US instructor showed the teaching materials to the tutors in advance) and then attempted to expand the learners' knowledge on the topic by adding new, related information. For example, the tutors were prepared to review Chinese table manners such as seating arrangement and appropriate time to start eating. After the review, they added more information on the topic of adequate Chinese dining such as a discussion about the conventions related to chopsticks (e.g. not to stick chopsticks in a bowl of rice). The learners were asked to record each session using the software, Callnote, and submit the recordings to the US instructor.

5.3 Data Collection

The data included in this study are (1) the recordings of the dyads' DVC sessions, (2) American learners' survey regarding their opinions about the DVC sessions, and (3) Taiwanese tutors' reflections on their teaching. The participants submitted their recordings every time they completed a session. Some of the dyads had different technical issues; therefore, some of the recordings were not complete. At the end, a total of 13 complete sessions were recorded, which resulted in 395 minutes of interaction data analyzed in this study. After the online sessions ended, the American learners were asked to complete a survey in class. The survey consisted of two parts. Part 1 elicited the learners' learning background information, part of which has been presented in the Participants section above. Part 2 included open-ended questions regarding the effectiveness of the DVC sessions and suggestions for future DVC projects. At the same time, the US instructor traveled to Taiwan to visit the tutors in their classroom. The US instructor divided the tutors into small groups and posted a few questions to guide them for discussion on their online teaching. At the end of the visit, each tutor wrote a teaching reflection and shared it with others. The written reflections were also used as data in this study.

5.4 Data Analysis

For research question 1, *what types of instructional feedback do DVC tutors employ, and how do they affect learners' responses?*, the researchers first identified all teaching episodes in the session recordings. In this study, a teaching episode is defined as the whole process of the teaching of a single language point. A teaching episode can be student-initiated, which occurs when the student uses the target language inappropriately or asks a language question and the tutor responds to it. A teaching episode is teacher-initiated when the tutor uses different means to check the student's understanding of a language point and the student does not understand and needs more instruction. Once the researchers identified a teaching episode, the type of instructional feedback employed in the episode was analyzed. This study found seven types of instructional feedback. The definition of each type is listed below (See Appendix 1 for examples).

- (1) Translation: The teacher translates an utterance from Chinese to English.
- (2) Simplified Reformulation: The teacher paraphrases his or her utterance.
- (3) Direct Explanation: The teacher uses Chinese to explain the meaning of a word, a phrase, or a sentence.
- (4) Examples: The teacher gives examples of the meaning or concept he or she tries to convey.
- (5) Repetition: The teacher repeats what he or she says.
- (6) Elaboration: The teacher attempts to let the student give more information by pausing to let the student complete the teacher's utterance or by asking questions to help the student elaborate more on the topic.
- (7) Picture Prompts: The teacher uses one or more pictures as prompts to assist the student's understanding and to encourage discussions.

Next, the researchers analyzed how the learners responded to each type of instructional feedback. This study found four kinds of responses from the students, which are listed below (See Appendix 2 for examples).

- (1) Confirming Understanding: The student says something such as "Right", "Oh ya.", or "I got it." to confirm his or her understanding.
- (2) Repetition: The student repeats the teacher's utterance.
- (3) Responding Correctly: The student's response to the teacher's statement or question is on topic and uses correct formulation.
- (4) Not Understood: The student's response is incorrect (e.g. off the topic, wrong grammar, etc.), which shows that he or she does not understand the teacher's instruction.

Confirming understanding and repetition are considered learner uptakes, which refer to a student's response that follows the teacher's instruction. On the other hand, responding correctly is considered learner repair, which is the correct reformulation of an error as uttered in a single student turn (Lyster & Ranta, 1997). Both learner uptake and repair are seen as indicators of learning effectiveness (Sung & Tsai, 2014).

After all instructional feedback and responses are identified, the researchers tallied the frequencies of each type of instruction and student response.

For research question 2, *what is the rationale behind the use of different types of instructional feedback in DVC?*, any concepts or reasons which made the tutors use certain kinds of instructional feedback in the online sessions, and that which emerged in the tutors' teaching reflection notes, were coded into different categories for reporting. For research question 3, *what are students' perceptions toward online language learning through DVC?*, common ideas which emerged in the following areas were coded into different categories under each area: language skills most benefited, language skills least benefited, cultural knowledge gained, and future DVC project suggestions.

6. Results

6.1 Instructional Feedback Types and Student Responses in the DVC Sessions

This study identified a total of 168 teaching episodes in the DVC sessions, among which 100 of them are student-initiated and 68 of them are teacher-initiated. The number of student-initiated episodes being larger than the teacher-initiated ones is a sign of active learning. In addition, a total of 190 instances of instructional feedback were executed in the 168 teaching episodes, among which repetition (34%) was most frequently used, followed by direct explanation (19%), simplified reformulation (17%), translation (10%), elaboration (9%), examples (7%), and picture prompts (4%) (See Table 3). In fact, repetition was used almost twice as many times as the second most frequently used type, direct explanation. On the other hand, picture prompts were the least used for teaching by the tutors.

Table 3: Frequencies of instructional types and student responses

Instructional Types	Frequency and Percentage	Student Responses	Frequency and Percentage
Repetition	64 (34%)	Confirming understanding	19 (30%)
		Repetition	29 (45%)
		Responding correctly	1 (2%)
		Not understood	15 (23%)
Direct Explanation	36 (19%)	Confirming understanding	18 (50%)
		Repetition	5 (14%)
		Responding correctly	2 (5%)
		Not understood	11 (31%)
Simplified Reformulation	32 (17%)	Confirming understanding	17 (53%)
		Repetition	0 (0%)
		Responding correctly	1 (3%)
		Not understood	14 (44%)
Translation	19 (10%)	Confirming understanding	15 (80%)
		Repetition	2 (10%)

		Responding correctly	0 (0%)
		Not understood	2 (10%)
Elaboration	17 (9%)	Confirming understanding	2 (11%)
		Repetition	4 (24%)
		Responding correctly	4 (24%)
		Not understood	7 (41%)
Examples	13 (7%)	Confirming understanding	10 (77%)
		Repetition	0 (0%)
		Responding correctly	1 (7%)
		Not understood	2 (16%)
Picture Prompts	9 (4%)	Confirming understanding	5 (56%)
		Repetition	3 (33%)
		Responding correctly	0 (0%)
		Not understood	1 (1%)

In terms of the learners' responses to each type of instructional feedback, their most frequent response is learner uptake (confirming understanding or repetition) to four types of instruction: repetition (75%), translation (90%), examples (77%), and picture prompts (89%). On the other hand, direct explanation, simplified reformulation, and elaboration resulted in lower learner uptake, which also yielded higher frequencies of learners not understanding the instruction. The learners did not understand the simplified reformulation instruction 44% of the time, elaboration 41% of the time, and direct explanation 31% of the time. These results could mean that the three types of feedback might be more difficult to maneuver to make them effective. Insights regarding the use of different instructional feedback types are discussed in the next section.

6.2 Tutors' Reflections on Their Teaching

6.2.1 Repetition

Repetition, the most frequently used method, was employed when the tutors were not sure if the learners could hear them clearly or on time. For example, Tutor 7 stated, "There was the time lag issue in the online sessions. In order to decrease the problem of the student not understanding what I said due to time lag problem, I often used repetition." The high frequency use of repetition illustrates that the unstable connection probably occurred very often. In addition to using repetition to minimize the effect of connection problems, some of the tutors used it to give more time to the learners to respond to them. Tutor 9 said, "I thought repetition was effective in that it gave my student time to think and comprehend."

6.2.2 Simplified Reformulation

When the language point or concept they tried to teach was very complicated or abstract, the tutors used simplified reformulation to teach. Tutor 1 said, "I often used simplified reformulation when I felt the material I tried to teach was hard and the student

could easily understand me after I used simplified reformulation in a short time.” This might be true sometimes, as the data show that 56% of the time simplified reformulation was used, the learners understood it. However, in the remaining 44%, the participants still did not understand the tutors. This finding implies that some of the tutors might have misinterpreted whether their learners understood them and underestimated the difficulty level of the reformulation used in their utterances.

6.2.3 Direct Explanation and Examples

The two methods, direct explanation and examples, were mostly used to explain abstract or cultural concepts. The tutors thought they could be effective in making students understand clearly and more completely. However, with direct explanation, the tutors learned from their DVC teaching experience that if they did not use the vocabulary at the students’ level to explain, the method might not yield good learning results as expected. Tutor 3 described, “My experience with my student was that I needed to avoid difficult vocabulary. If I avoided difficult vocabulary, I found that it quickly helped my student understand what I meant.” Having a similar experience, Tutor 7 elaborated, “Using direct explanation is risky because when you explain, the vocabulary you use to explain might not be comprehensible to the student. You end up having to explain about the explanation.” In terms of the use of giving examples, the tutors also learned a few things about which to be cautious. They found that using simple examples and examples closely related to the students’ daily lives were most effective. Tutor 3 explained, “Using complicated examples might have a negative effect as the student might not understand you and you end up needing to think of other ways to teach them.” Tutor 4 also pointed out that “It would be best if you could find examples related to your student’s life because in my online sessions, probably because we have different life experiences, many times the student did not understand my examples.”

6.2.4 Translation

The method of translation was used when the tutors could not think of a better way to teach the students. A few tutors mentioned the advantage of using translation for students to understand quickly, but the study results showed that the tutors did not use the method very often (only 10% of the instruction time). This could be due to the tutors’ belief that using translation to teach might not help learners retain the knowledge in the long term. The concern is illustrated in Tutor 3’s statement, “I feel by using translation the student can quickly understand the meaning, but I am not sure if they will be able to remember the knowledge in the long run. I only used it when I didn’t know how to address the language point.”

6.2.5 Elaboration

Elaboration, a method less used in the online sessions, was also rarely addressed in the teaching notes. In fact, only one tutor, Tutor 4, explained her use of this method. She said, “I used it when the student’s answer was not what I expected. I tried to ask her for more information”. The low frequency use of elaboration in this study could be due to

two reasons. First, the learners in this study were probably advanced enough that they were able to give elaborated statements in the interactions and the tutors did not see the need to ask for more elaboration. Second, a few tutors commented on their learners being highly motivated and active during the sessions to the extent that one tutor thought that in the future she needed to have a better estimate of how long the student needs to respond to her. Tutor 6 stated, “Because my student was very outgoing, she spoke a lot more than planned.” With the majority of the learners being highly active and talkative, elaboration was rarely needed. However, when it was used, the learners did not understand the instruction 41% of time. This suggests that when the learners had short utterances in the initial answers, they probably did not have sufficient vocabulary or grammar knowledge to elaborate on the topic; hence, asking them to elaborate more could not yield a positive teaching result.

6.2.6 Picture Prompts

The least used method, picture prompts, was, surprisingly, a highly discussed method among the tutors. Tutor 10 believed that the use of pictures “strengthened the student’s memory of the new vocabulary.” Sometimes, picture prompts were used as a secondary method as Tutor 5 said, “My student understood me most of the time, but if he didn’t, showing him pictures was a good way to help.” In a different case, Tutor 11 revealed that it was his student who requested that he use a picture “because the use of a picture seemed to help him connect more quickly to the lessons.” Both Tutors 4 and 6 thought the use of pictures were effective. Tutor 6 described, “When I showed a picture, I would ask questions about the picture and I found that it was effective. It made the student speak more Chinese” and Tutor 4 expressed, “I feel the use of pictures was very effective as it helped the student understand my teaching.” The study results regarding picture prompts were contradictory to the low frequency with which the method was used, but many of the tutors spoke highly about it. This could be attributed to the fact that the time it takes to use pictures as prompts is much longer than to use other methods. For example, Tutor 6 mentioned that she would ask questions when showing a picture. The time that takes the tutor to show the picture, to ask questions, and the student to respond probably is much longer than the time the tutor translates a word meaning or repeats what he or she says. As a result, even though the use of pictures as prompts has a low frequency count, based on the teaching notes, each instance was used for a longer period of time than other types of instructional feedback and was effective.

6.3 Learners’ Perceptions on the Use of DVC

The learner survey elicited the learner participants’ perceptions on how effective they thought the learning was through Skype. First, the participants were asked to identify the aspects most benefited and least benefited from the Skype sessions (See Table 4).

Table 4: Aspects most benefited and least benefited from the Skype sessions

Survey Items	Learning Aspects	Number of Learner Participants
Aspects most benefited from the Skype sessions	Listening	10
	Vocabulary Use	2
Aspects least benefited from the Skype sessions	Grammar	6
	Pronunciation	3
	Speaking Speed	2
	Reading	1

The majority (ten out of 12) of the participants mentioned that their listening skill is the most benefited area from the Skype sessions. A few reasons are attributed to such a result. First, a few learners mentioned that because the connections could sometimes be spotty, they could not rely much on body language through webcams. As a result, Participant 2 stated, “I had to focus really hard to make sure I understood what she was saying.” Participant 10 made a similar comment by saying “I had to listen intently to understand everything the instructor was saying, so much so that I was physically exhausted after each session.” Another reason the participants thought their listening skill benefited most is that they felt the interaction with the tutors were more authentic compared to their other learning experiences (e.g. role-playing in the classroom). For example, Participant 12 said, “I’m used to more ‘role’ conversations, and talking to my tutor helped me work on real-world listening/understanding.” Participant 5 mentioned the authenticity of the interaction in which colloquialisms were often found. He said, “It’s very different listening to a native speaks colloquially, so it forces me to listen harder.” Another aspect related to the authenticity of the interaction is speaking speed. In a language classroom, it is common for instructors to slow down their speaking speed to accommodate learners’ target language levels. However, in the Skype sessions, the tutors used a normal speed yet enunciated clearly, which helped the learners get accustomed to the normal speed a native speaker would use. Participant 3 said, “My tutor was very helpful by not trying to speak slower.” Although the DVC sessions were not without technical flaws, such as unstable Internet connections, with the tutors’ devotion and effort in making understandable communication, the learners spoke positively about the learning experience. Participant 2 stated, “By the 3rd session we were going really well.”

As for the area least benefited, half of the learner participants believed that grammar was addressed least. Participant 12 recognized that grammar “was never an element of focus.” This could be attributed to the Chinese level of the learners being sufficient to carry out meaningful communication with the tutors; hence, the tutors did not interrupt the conversation when the learners’ made a grammar error. This is evident when Participant 5 mentioned, “If she understood what I was trying to say, then we moved on.” Although the participants realized that grammar was not the emphasis in the DVC sessions, a couple of them expressed their hope to learn more grammar online. For example, Participant 1 said, “I have a good grasp on vocabulary, but grammar could be more specific.”

Next, when asked if any cultural knowledge was gained in the DVC sessions, the majority (ten out of 12) answered positively (See Table 5).

Table 5: Cultural knowledge gain and Skype experience ratings

Survey Items	Answers	Number of Participants
Was any cultural knowledge gained in the DVC session?	Yes	10
	No	2
How do you rate your Chinese language learning experience using Skype?	Displeased	1
	Somewhat Displeased	2
	Neutral	2
	Somewhat Pleased	4
	Pleased	4

Some learners appreciated the opportunity to learn about cultural differences. For example, Participant 7 said, “I enjoyed comparing eating customs and culinary norms with my tutor.” A few learners especially liked the learning of the Taiwanese perspectives. Participant 8 mentioned, “It was pretty helpful. She would explain on why Taiwan people think or say those things.” The other learner, Participant 12 stated, “I got to learn more about Taiwanese perspective of the Chinese movies we watched.” Participant 5, who had extensive immersion learning experience, thought that even though he had already been exposed to the Chinese culture, “it was still interesting since she [the tutor] was from Taiwan, not China.” Even for learners who had been to Taiwan, such as Participant 1, she thought that “there are always cultural points to learn.” Overall, the majority (eight out of 12) of the participants were pleased or somewhat pleased with the Skype learning experience.

Finally, the participants made a few suggestions for future DVC language learning projects. One aspect often mentioned was how to better deal with the technology issues they encountered. A few participants stated that Skype was not the best option for DVC learning. For example, Participant 3 said, “Skype has always had quality issues on my computer and I could have made it better using something else.” Participant 1 suggested using a different tool. He stated, “Skype is unreliable. Zoom is an App that I have heard of that is nice.” Another issue some of the participants often ran into was unstable internet connections. Participant 2 suggested to those students to “reserve a room in the library so internet problems is not a problem.” However, this suggestion would be difficult to achieve if the online session is scheduled at odd hours (e.g. late at night due to time differences between Taiwan and the US) when the library is not available. Other technology issues occurred when the participants tried to record the online sessions. For different reasons, some of the students had incomplete recordings or failed to record the sessions. Participant 6 suggested using a new recording system. The other aspect frequently mentioned in the suggestions was how to make the DVC teaching more effective. Participant 8 thought that the teaching materials the tutors made was “somewhat of a surprise”, therefore, having a handout of vocabulary before or after the session would be helpful. Participant 10 had a similar suggestion as he said, “perhaps provide some vocabulary to review before the session to help it go more smoothly.” As

mentioned in the Participants section, the learners in this study had a wide range of Chinese learning backgrounds. Even though the US instructor sent a brief description of each learner's learning background and current level to the tutors, it was difficult for the tutors to design teaching materials most suitable for the individual learners. The tutors might have prepared something below or above the learners' current language levels. In order to overcome this issue, Participant 12 suggested that "Maybe have an "introductory" session, where the lesson is secondary to figuring out how to teach the student." Sometimes, not only the learner's language level, but also his or her personality might have been a factor affecting the online sessions. For example, Participant 7 was a very shy student and felt extremely uncomfortable having to meet an online tutor he did not know and speaking in a target language he was still learning. After one session, he requested to have a Chinese-speaking friend to sit next to him when he had the second DVC session. In the survey, he suggested to have "alternative options for uncomfortable students." He then further elaborated on his experience, "Having a Chinese native speaking friend next to me in my last two sessions helped my stress level a lot but the first session was very uncomfortable." Besides the technology and teaching aspects that received most suggestions, the majority of the learners felt positive about the DVC learning experience and suggested to have "more of them" in the future.

7. Conclusion

The current study investigated the Chinese language teaching episodes which occurred in one-on-one DVC sessions between pre-service teachers and college language learners, and their opinions on their teaching and learning. To answer research question 1, *what types of instructional feedback do DVC tutors employ, and how do they affect learners' responses?*, among the 168 teaching episodes identified, the tutors most frequently used repetition as the instructional feedback. The use of repetition was fairly effective as it received frequent learner uptake (75% of time) and the learners did not understand the instruction only 24% of time. On the other hand, picture prompts was the least used instruction type. Despite the low frequency of use, the tutors believed the method was effective. Overall, the findings show that in spite of the pre-service teachers' limited teaching experiences, they managed to employ a wide variety of teaching instructions in the DVC sessions. This result is much more positive compared to the one in Kozar's (2015) study which found low teaching quality in the private online language school. With regard to the learners' responses to the instruction, four types of instructional feedback (repetition, translation, examples, and picture prompts) yielded high frequencies of learner uptake while three types of instruction (elaboration, simplified reformulation, and direct explanation) resulted in higher frequencies of no understanding. This result could imply that the learners in the study did not have enough target language knowledge to elaborate on the topic when asked, or understand the tutors' rewording or explanations. The use of the three instructional feedback types (elaboration, simplified reformulation, and direct explanation) not being effective in this study could be attributed to the fact that all three types of feedback require proper adjustment of the teacher's feedback. Teacher training researcher, Sung (2010), pointed out that adequate adjustment of the teacher's feedback for language learners is a challenging task for novice language

teachers. Many novice teachers are unable to provide perfect input due to lack of experience. If the tutors plan to use these types of instruction, a suggestion would be to learn more about the student's current language level including their current vocabulary and grammar range before deciding the expected depth of the learners' elaborations and what rewordings or explanations to include in the instruction.

To respond to research question 2, *what is the rationale behind the use of different types of instructional feedback in DVC?*, repetition was mostly used to ensure that the unstable internet connection did not interfere with the instruction. When a language point was complicated or abstract to explain, simplified reformulation was used. On the other hand, when an uncomplicated or concrete concept needed to be conveyed, direct explanation and examples were employed. When the tutors could not think of other methods to use and needed the learners to understand quickly, translation was used. Elaboration was only used when the tutors wanted the learners to provide more information. Lastly, the use of picture prompts was to aid the tutors to ask the learners questions for more discussions or used as a secondary method when the first method used was not very effective.

To answer research question 3, *what are students' perceptions toward online language learning through DVC?*, the learners believed that their listening skills improved most from the online sessions. One reason is that the bad Internet connection forced them to not rely on the webcam for body language cues, but only focused on listening to the tutors. Moreover, the authenticity of the interactions in terms of the content and speaking speed helped develop their listening ability. In addition to the improvement in their listening skills, the learners also experienced significant gains in cultural knowledge. Such finding is aligned with Canto, Jauregi and Van den Bergh's (2013) study in which the participants in the DVC group reported gaining inter-cultural knowledge during the online sessions. In the present study, the learners from traditional and immersion learning backgrounds both appreciated the opportunity to learn more cultural knowledge from the Taiwanese perspective and the cultural differences. Despite the gains in listening and cultural knowledge, the learners felt least benefited in grammar and hoped future DVC projects can emphasize not only oral skills, but grammar as well. Finally, the learners suggested that future DVC projects can experiment with other DVC tools which might be more effective for language learning, and that online tutors need to know more about their learners in terms of their level and personality before teaching starts.

8. Discussion

The results of the current study are much more positive than a similar study conducted by Kozar (2015) which reported the learners being in a receptive role to answer the tutors' questions and not initiate conversations. In this study, the learners actually initiated more teaching episodes than the tutors. The different results in the two studies could be due to the amount of training the online tutors had. In the current study, even though the tutors had very limited prior teaching experience, the language teaching

introductory course they were taking offered instructions on language teaching theories, how to apply theories in lesson plans, how to make teaching materials, and how to teach Chinese as a foreign language to English speakers at different levels. Moreover, after each online session, the Taiwan instructor would ask the tutors to discuss the teaching issues they encountered and how to avoid them the next time. This teacher training and support probably made a positive influence on the results of this study. This assumption is supported by the finding in Charbonneau-Gowdy, Cechova and Kriz's (2009) study in which the participants were found to be more self-directed in the DVC sessions when they were taught by a qualified and experienced teacher. This implies that implementing useful training for online teachers is necessary to ensure online teaching quality.

Next, both the tutors and the learners expressed concerns about the tutors not being able to teach at the students' levels and teach with consideration of the students' personality. This implies that online teachers need to take time to get to know their learners' language and comfort levels, learning backgrounds, and personalities before teaching. In the one-on-one online setting, it could be intimidating for learners as they need to speak the target language they are learning to a teacher they have not met in person. Talking at the language level suitable to the learners and acting carefully with the learner's personality in mind are teaching techniques necessary to ensure online teaching success. In addition, the study results illustrated that instructional feedback could be influenced by technology. This finding is similar with the findings in Hampel and Stickler's (2012) and Bensafa's (2014) studies. For example, Bensafa reported that the conversation delays during DVC sessions affected the quality of instruction while Hampel and Stickler stated that instead of focusing on the teaching and learning tasks, the participants spent time discussing technology issues. In this study, bad Internet connections made the tutors repeat their utterances. The frequency of repetition was so high that it was ranked the most frequently used instruction in the DVC sessions. If the technical problems could be minimized or eliminated, it would yield a much better teaching and learning environment where teachers and learners could focus on what the learners need to learn, and not that they could not hear clearly. Lastly, although one or two participants complained about the quality of the DVC tool, Skype, used in this study, the majority of the learner participants positively rated this tool. This finding supports the finding in Eröz-Tuğa and Sadler's (2009) study in which Skype was rated as one of the top DVC tools for language learning and teaching. This suggests that Skype is a good option to consider when instructors explore possibilities for DVC tools.

9. Limitations

This study has provided detailed information on how language teaching and learning occurred in an online one-on-one environment via DVC. To further explain the teaching and learning phenomenon observed, the tutors' reflections and the learners' survey data were analyzed. Although this study found fairly positive teaching results in terms of the wide variety of teaching methods utilized and mostly positive comments from the learners, cautions should be used as this study has several limitations. First, due to the technical difficulties when using Callnote to record the DVC sessions, some of the

sessions failed to be recorded, so the data did not include all sessions from all six dyads. Second, this study only focused on one single advanced Chinese class in which half of the learner participants had Chinese immersion experiences while the remaining half only learned Chinese through traditional classes in the United States. Future studies are needed to include a larger number of participants at various language levels in both similar and distinct study contexts compared to this one to yield a higher reliability in results. Nonetheless, this study shows the importance of understanding more about how DVC teaching occurs and how the online environment might affect teaching and learning.

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Appendix 1

Examples of the Seven Types of Instructional Feedback Found in the DVC Sessions

T = Tutor
S = Student

(1) Direct Explanation

The learner did not know the meaning of “market” and the tutor used direct explanation to define what a market is.

T: 你知道”市场”吗?
[Do you know “market”?]

S: 我不知道
[I don't know.]

T: 市场就是很多卖小吃，然后可以买菜，然后有水果的地方。
[Market is a place, which sells small bites of food, a place you can shop for grocery and fruit.]

S: 哦，就是一个很大的地方有很多很多的东西？
[Oh, is it a very big place with a lot of things?]

T: 对，有很多东西，可能有卖吃的，有卖喝的，然后有很多用的东西。
[Yes, a lot of things, maybe some of them sell food, some sell drinks, and some sell things people use.]

S: 嗯哼。
[Ah ha.]

(2) Translation

The learner wanted to say she liked to eat spring rolls, but did not know how to say it. The tutor translated “spring” and “roll” for the learner.

S: 所以我喜欢吃...怎么说...应该是”spring roll” 在英文。
[So I like to eat...how to say...should be “spring roll” in English.]

T: Spring 是春，roll 是卷。所以是春卷。
[Spring is spring, roll is roll. So it is spring roll.]

S: 嗯哼。
[Ah ha.]

(3) Repetition

For some reason, the learner asked the tutor to repeat his question, but still did not answer the question. The end of the excerpt shows that the problem was the bad Internet connection, which affected the clarity of the tutor’s utterance.

T: 我想要请你分享在台湾旅行的过程中有没有遇到过困难？
[I want to ask you to talk about any difficulties you encountered when you traveled in Taiwan]

S: 再一次？
[One more time please?]

T: 我想要请你向我分享一下你在台湾旅行的过程中有没有遇到过困难？
[I want to ask you to talk about any difficulties you encountered when you traveled in Taiwan]

S: 我？
[Me?]

T: 对，没错。
[Yes, correct.]

S: 我觉得我们的上网 internet connection 非常坏。很难听你，所以你常常说

一样的句子，不好意思。

[I feel our internet connection is very bad. I have a hard time hearing you, so you often need to repeat the same sentence. I am sorry.]

(4) Providing Examples

The learner did not understand the tutor's question; hence, the tutor used herself as an example to answer the question.

T: 那你说英文是你的母语嘛，那你学习中文。那你还会其他语言吗？

[You said English is your native language, and you are studying Chinese. Do you speak other languages?]

S: 我不明白。

[I do not understand.]

T: 额，就是我还会说一点点韩语跟一点点德语，那你会其他语言吗？

[Hmm, I meant like I speak a little bit of Korean and German, do you speak other languages?]

S: 明白，好了。额，我会说英文还有中文，还有一点，怎么说“Spanish”？

[Got it, OK. Hmm, I speak English and Chinese, and a little bit, how do you say “Spanish”?]

(5) Simplified Reformulation

The learner did not know the term “go to school”, so the tutor reworded the phrase to “go to university”.

T: 我现在在高雄念书。

[Now I go to school in Kaohsiung.]

S: 念书？

[Go to school?]

T: 上大学。

[Go to university.]

S: 上大学，好。

[Go to university, OK.]

(6) Elaboration

The learner initially made a short sentence. The tutor helped him elaborate more by the use of elaboration.

S: 我从美国到台北。
[I went from the US to Taipei.]

T: 从美国到台北, 然后去?
[From the US to Taipei, and then?]

S: 然后, 哦, 我去越南。
[And then, oh, and then I went to Vietnam.]

(7) Picture Prompts

The learner did not know what “boat” means. The tutor tried to show him a picture of a boat.

S: 什么是”船”?
[What is “boat”?]

T: 船...那船是... 有没有办法给你看图片...好, 我用图片给你看
[Boat...a boat is...am I able to show you a picture...OK, let me show you a picture.]

Appendix 2

Examples of the Four Types of Student Responses Found in the DVC Sessions

(1) Confirming Understanding

The learner repeated the phrase, “top of the building”, after the tutor mentioned it. The tutor was unsure if the learner understood what it meant and asked for confirmation. The learner confirmed it positively.

T: 这里是顶楼。
[Here is the top of the building.]

S: 顶楼。
[Top of the building.]

T: 顶楼是一栋房子最高的地方。你知道意思吗?
[Top of the building is the highest place of a building. Do you understand?]

S: 知道啊。
[Yes, I do.]

(2) Repetition

The learner did not know how to say “cereal” in Chinese. After the tutor translated it for him, he repeated the word in Chinese.

T: 所以你平常在家里都是吃美国菜?
[So you usually eat American food at home?]

S: 但是我最喜欢的是 cereal.
[But my favorite food is cereal.]

T: 哦, 谷类那些的吗?
[Oh, you mean cereal and such?]

S: 嗯, yeah yeah.
[hmm, yeah yeah.]

T: 那个叫做, 中文里面叫做谷类。
[That is called cereal in Chinese.]

S: 谷类。
[Cereal.]

(3) Responding Correctly

In this example, the student did not understand the tutor’s question. The tutor gave an example of himself (he is a senior in college) and elicited the same question to the learner.

T: 那你现在几年级?
[Which year are you at in college?]

S: 现在吗?
[Now?]

T: 那你在大学, 我念四年级, 你念?
[You are in college. I am a senior, and you?]

S: 四年, 我现在我第四年。
[Senior, I am a senior.]

(4) Not Understood

The learner did not understand the phrase, “wait a minute” in Chinese. After the tutor used repetition a few times, the learner still did not understand it.

T: 等一下我们听他的歌。
[Wait a minute, let’s listen to his song.]

S: 等一下?
[Wait a minute?]

T: 等一下。
[Wait a minute.]

S: 等下?
[Wait minute?]

T: 等一下。
[Wait a minute.]

S: 等下?
[Wait minute?]