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Investigating the use of a smartphone social networking application on language learning

Ko-Yin Sung
Utah State University
koyin.sung@usu.edu

Fredrick Poole
Utah State University
Frederick.poole@usu.edu

This study explored college students' use of a popular smartphone social networking application, WeChat, in a tandem language learning project. The research questions included (1) How do Chinese-English dyads utilize the WeChat app for weekly language learning?, and (2) What are the perceptions of the Chinese-English dyads on the use of the WeChat app for language learning? In this exploratory study, the participants' conversations were recorded and excerpts were used to illustrate how the dyads utilized WeChat. In addition, an online survey was distributed to participants after the tandem language learning program ended, which asked questions about how the dyads used WeChat for language learning. The survey results suggested that the participants' experiences with WeChat were mostly positive with only a few drawbacks. Suggestions for improvements in future WeChat tandem language learning and for future smartphone studies were discussed.

Keywords: tandem language learning, smartphones, WeChat, Chinese, English

Introduction

Mobile technologies are portable electronic devices used for communications. Such devices include mobile phones, smartphones, personal digital assistants (PDAs), and tablet PCs (Hsu, 2013). According to the International Telecommunication Union (2015), mobile phone subscriptions increased from 738 million in 2000, to more than 7 billion in 2015 worldwide, which represents a penetration rate of 97%. Mobile phone service is now available to more than

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90% of the global population and smartphone sales lead this industry worldwide (Internet Society, 2015).

It is evident that the adoption of mobile devices for learning has enormous influence on education. For example, the results of the Pearson student mobile device survey reported by Poll (2014) showed that 84% of US college students own a smartphone, 83% of them regularly use a smartphone, and that 56% of them use a smartphone every week in order to do their school work. The figures clearly show that modern students look at the smartphone as the preferred interface for communication and for study (Currie, 2013). In terms of second language acquisition, smartphones are powerful tools for assisting language learning as they provide learners with mobile and independent access to language learning materials and resources (Barrs, 2011). Smartphones also assist language learning by offering rich graphics, high quality audio and video, and a high degree of interactivity (Osborne, 2013). Among the smartphone applications (referred to as apps hereafter) used, social networking apps impact student learning most (Currie, 2013). With the use of a social networking app on a smartphone, students are able to interact with people anywhere in the world at any time. This enables students to receive unlimited resources, and to have unlimited interactions, for language learning.

Since more than half of the college student population are social networking app users (Tapshield, 2015), and researchers (Gikas & Grant, 2013; Greenhow, 2011) have noted the potential of social networking apps in education, it is important to research the use of such apps in learning a second language. Hence, the purpose of this study is to investigate the use of a newly developed smartphone app, WeChat, on tandem language learning. WeChat, a popular mobile text and messaging app developed in 2011, provides unique social networking functions, and had 700 million monthly active users worldwide in 2016 (BI Intelligence, 2017).

This study used WeChat as the communication tool in a Chinese-English language exchange program in a US university setting and examined the perceived effectiveness of different functions of WeChat on language learning by Chinese and English as a second language learners.

Theoretical framework

In order to investigate tandem language learning through the use of smartphones, this study draws primarily on Vygotsky's sociocultural theory (Vygotsky, 1978), which views language learning as first social, then individual (Mitchell & Myles, 1998). From the perspective of sociocultural theory, communication occurs through interaction with others in the society through the use of language as a tool. Lantolf (2006) identifies two central constructs of sociocultural theory for language learning, which are mediation and internalization. The first construct, mediation, refers to people using social activities, artifacts, and concepts to connect with others, the environment, and their inner worlds. The second construct, internalization, is "the process through which members of communities of practice appropriate the symbolic artifacts used in communicative activity and convert them into psychological artifacts that mediate their mental activity" (Lantolf, p. 90). The term, Zone of Proximal Development (ZPD), explains how language learning occurs during mediation and internalization. Suggested by Vygotsky (1978), ZPD is the difference between what a learner can accomplish alone and what they can accomplish with an expert's help. From the perspective of ZPD, the expert-novice relationship in tandem learning offers scaffolding,

which assists language acquisition in the process of mediation and internalization. In applying the concepts of sociocultural theory in the context of the present study, tandem language learning through the use of smartphones is seen as a sociocultural activity. This occurs in a specific context where interaction between pairs of learners is mediated by culturally constructed tools (e.g., language, computer, and language learning tasks) and is assisted by the pairs' expert-novice language status.

Literature review

This section briefly reviews studies regarding (1) the use of computer-mediated communication (CMC) in tandem language learning and (2) the use of smartphones in language learning, in an attempt to identify research still needed in the field.

Tandem language learning

Tandem language learning is defined as "face-to-face exchanges between two learners with different L1s, each trying to learn the other's language" (Chung, Graves, Wesche, & Barfurth, 2005, p. 52). In this learning context, each partner is both a learner of a target language and a tutor of his or her first language (Vassallo & Telles, 2006). Tandem language learning has been applied in language teaching in different ways. It can be integrated into a language course or be carried out independently as an after-school activity for different time lengths and frequencies. Many studies in tandem language learning have focused on face-to-face interaction (Tan, Wigglesworth, & Storch, 2010); however, as the use of CMC has been growing, tandem language learning has incorporated CMC in both synchronous (e.g., on-line chat) and asynchronous (e.g., e-mail) modes.

Recent research on tandem language learning incorporating CMC reported many learning benefits. One benefit found by a couple studies (Lee, 2011; Vinagre, 2005) is participants' increased learner autonomy. For example, Vinagre's study reported that the participants were active and eager to discover each other's views on different issues and events through e-mails. The CMC-supported tandem learning also made learning more interesting as it enabled learners to contact native speakers, which allowed the participants to expand their perspectives of the target language and culture (Ushioda, 2000). By connecting and interacting with others, the learners experienced increased motivation (Ware & Kramsch, 2005). Another benefit of CMC-supported tandem learning is to develop learner's syntax and lexicon complexity (Sotillo, 2000). Priego's (2011) e-mail study, and Kabata and Edasawa's (2011) tandem discussion board study, found that the participants gave feedback and made corrections for their partners, and corrections were noticed and learned by their partners. As a result, the participants' syntax and lexicon complexity were developed through different methods of error correction. In addition to the aforementioned asynchronous tandem studies, in a synchronous on-line chat tandem study, Lee (2008) found that the on-line text chat environment increased participants' attention to linguistic errors which resulted in self-repair. Although numerous studies have investigated tandem learning through different CMC tools in both asynchronous and synchronous environments (e.g., e-mail, blog, discussion board, real-time chat), the use of social media apps on a smartphone is left out. Social media apps, such as WeChat investigated in this study, offer additional functions. Some of this functionality supports asynchronous learning environments, and some supports

synchronous learning environments. These functions are new to language learning and are worthy of examining in scientific studies.

Studies of smartphones in language learning

A smartphone is a mobile phone with computer functionality. It usually has a touch screen keyboard, internet capability, and runs an operating system (Golonka, Bowles, Frank, Richardson, & Freynik, 2012). These advanced technology functions seem to be useful tools to assist language learning. However, since the advancements in smartphone capabilities are fairly recent, there are limited studies which explore ways of using, and the effectiveness of, smartphones to aid language learning. One study conducted by Baleghizadeh and Oladrostam (2010) investigated whether the use of the voice recording function on smartphones improved foreign language students' grammatical knowledge of English. The study results were positive as the participants who used the voice recording function outperformed the ones who did not. In a different study, Comas-Quinn, Mardomingo, and Valentine (2009) used a mobile blog for study abroad college participants to learn the target culture. The informal feedback from the participants suggested a positive learning experience. Many participants commented on the easy-to-use interface and were content to interact with others on the blog.

A couple of the mobile language learning studies focused on the evaluation of particular smartphone apps in aiding vocabulary learning. For example, Osborne (2013) used an autoethnography research approach, which positioned himself as both a learner and a researcher to investigate vocabulary learning via a smartphone app. The analysis of his learning diary showed that the vocabulary learning experience heavily depended on the quality of the app used. For example, Osborne often complained about the limited teaching approach and content in the app and how the repetitiveness of the instruction created frustration. Osborne also noted how the interface design irritated him as it interfered with his learning at times. Osborne's findings were supported by Burston's (2014) claim that language learning apps on mobile devices involve mostly repetitious vocabulary and grammar drills. Also noting a lack of effective apps designed for language learners, Wu (2014) designed a smartphone app geared toward vocabulary learning for English as a second language students at the college level in China and examined its effectiveness in teaching. The results of the study showed that the experimental group which used the app outperformed those in the control group which did not use the app. Similarly, due to a lack of appropriate language learning apps to use for his learners, Wong (2013) designed a smartphone app for teaching idioms to fifth graders in Singapore. The students were asked to learn idioms by using the app to take and assemble photos, construct sentences and paragraphs, post artifacts onto wiki pages, and pick and mix existing photos saved in the smartphone to create new artifacts. These tasks allowed the students to self-generate their learning contexts within their living spaces in informal learning settings. In conclusion, Wong stated that with careful app and instructional designs, the use of smartphones can promote authentic and productive language learning.

While a few studies examined the use of smartphones for learning grammar, culture, and vocabulary, the majority of smartphone studies (Browne & Culligan, 2008; Canvus & Ibrahim, 2009; Chen, Hsieh, & Kinshuk, 2008; Kennedy & Levy, 2008; Stockwell, 2007, 2008; Thornton & Houser, 2001, 2004, 2005) were geared toward the learning of vocabulary, specifically in the classroom setting. For example, Browne and Culligan investigated the

use of vocabulary flash cards on students' phones in assisting vocabulary teaching in the classroom. Chen et al. experimented with the use of smartphones by sending learners flashcards through short message service (SMS). Some of the researchers (Kennedy & Levy, 2008; Thornton & Houser, 2005) utilized the "push" approach (teacher-controlled timing and frequency) which sent their learners messages through SMS at spaced intervals for vocabulary learning. These studies reported mostly positive results both in vocabulary learning outcomes and in the learners' perceptions of using a smartphone for language learning.

Although most of the study results reported convincing evidence that smartphones can be promising in assisting language learning, some limitations were also identified. For example, in Stockwell's (2008) study, the learners found that Internet access, screen size, and the keypad could be primary reasons that may turn learners away from using smartphones to study. However, the functions of smartphones have advanced since Stockwell's study was conducted in 2008. Studies which examine learners' perceptions of using updated smartphones in language learning are needed. Other smartphone limitations identified are psychological. As smartphones are used for many aspects of language learners' lives, the boundaries between language learning and other tasks become unclear (Viberg & Gronlund 2013). However, Viberg and Gronlund argued that the limitations could only be seen as limitations if one sees it using the perspective of the traditional classroom teaching paradigm. Viberg and Gronlund advocated that research is necessary when a new communication culture emerges from the advancement of new technology innovations such as smartphones. In particular, it is essential to investigate how smartphones can be employed by teachers or learners. This is exactly what the present study intended to do. Burston (2013) mentioned that the development of smartphones has reached a point where they can pedagogically support anything that a desktop can do. They are seen as a promising medium for after school learning to complement formal schooling (Kam, Kumar, Jain, Mathur, & Canny, 2009). However, as seen in the literature review, most of the current smartphone studies have a focus on the pedagogical aspects (e.g., teaching of grammar, culture, or vocabulary). Studies on authentic audio/visual communication (e.g., the use of social media apps) used for language learning are scarce. In addition, the target language of most studies has been English, with little research being done for Chinese language education (Lu, Meng, & Tam, 2014). Hence, the current exploratory study aimed to close the gap in the research by examining the use of the smartphone app, WeChat, on language learning in a Chinese-English language exchange program.

This study intended to answer the following research questions:

1. How do Chinese-English dyads utilize the WeChat app for weekly language learning?
2. What are the perceptions of the Chinese-English dyads on the use of the WeChat app in language learning?

Method

Participants

The researchers explained the details about the WeChat project to potential participants recruited for this study. The participants who agreed to be involved in this study all signed a consent form for the study. No privacy information was asked and the anonymity of the participants was assured. There were a total of seven male and three female participants involved in the tandem language learning project, ranging in age from 18 to 24 years. The

participants were five English speaking students learning Mandarin Chinese as a foreign language, and five Mandarin Chinese-speaking international students from China learning English as a second language, all in a US university setting. The English speaking participants were volunteers recruited from a first-year Chinese course at a university in southwestern United States. The instructor gave the English-speaking participants extra credit points for voluntary participation in the tandem learning project. Among the five English participants, four had studied Chinese as a foreign language for less than 6 months while one had studied it for two years. All of the English participants self-rated their Chinese level as beginner. The Chinese speaking participants were recruited from the Chinese Students Association on campus, all of whom had studied English for more than five years and self-rated their English levels as either intermediate or advanced. No extra credit was given to the Chinese-speaking participants as they were in different disciplines and were not enrolled in an English language course.

Procedure

The Chinese-English tandem language learning project was a seven-week long language exchange program through the use of smartphones. Since the English-speaking participants were at the novice Chinese language level, weekly structured language tasks using specific functions in WeChat were assigned to them. These tasks acted as interaction prompts and were divided into three categories: texting tasks, voice tasks, and camera tasks. The first goal for using three distinct tasks was to develop the participants' mastery of the tool, so that participants' learning would not be reduced by unfamiliarity with the application. The second goal was to develop distinct linguistic skills. The texting tasks were used to review vocabulary and sentence structures learned in the classroom. Due to the limited Chinese linguistic abilities of the English-speaking participants, and the difficulty of learning Chinese characters, the texting tasks usually focused on reviewing what the teacher deemed to be the most important aspects of the most recent lesson. In contrast, the voice tasks were used to help participants expand their text responses, practice their pronunciation and tones, and focus on more advanced vocabulary. Finally, the camera tasks were typically used to develop the participants' vocabulary. Participants were asked to take pictures of objects that were not taught in class, but were related to the topics studied in class each week, and then to ask their partner for the Chinese word. In class, participants would then share the new vocabulary words that they had learned. While the native English-speaking participants were assigned weekly tasks, the native Chinese-speaking participants were at a higher English language level and many of them requested that they be allowed to ask their own questions. Hence, no specific language instruction was given to them. However, both the native Chinese and the English participants were encouraged to use any of the functions in WeChat for communication with their partners even if they finished the assigned weekly tasks. They were also asked to strive for a balance between English and Chinese as the research showed that a balanced use between two target languages in tandem learning benefited learners the most (Vassallo & Telles, 2006).

After the researchers randomly paired up the participants, a training session was set up to not only familiarize the participants with the WeChat functions, but to also discuss best practices for helping their partners with their language development. In the training session participants were first taught how to set up an account and how to add their

partner as a "friend." Then participants were shown each of the functions in WeChat and were asked to practice using the features with their partners. WeChat offers users several features to enhance the chatting experience. For example, WeChat users are able to post daily events in a feature called "Moments." In this feature, users can also respond to other users' posts in a threaded manner. Users can also communicate with friends via private conversations. In the private conversations, users can exchange messages via text bubbles, which are similar to traditional text messages, or speech bubbles, which are short 60 second voice recordings. These speech bubbles can be quite useful for language learners because they are automatically saved in the app, allowing users to listen to a voice message several times. Users also have the option of chatting live with an in-app video conferencing tool. In addition, WeChat also has a file sharing function through which users can share music, pictures, and other files. Finally, WeChat comes with a large set of emoticons and animated GIFs, both of which are commonly used in conversation. If users desire, they are able to download a larger library of emoticons and GIFs through most mobile markets.

After all of the participants felt comfortable using the tool, a discussion took place regarding strategies for helping their language partners. Participants were informed that as a tandem language learning partner, the dyads should strive for equal support for each other's language. They were taught how to provide appropriate scaffolding to their partners. Due to differences in the two groups' linguistic skills, the type of support should be different. For example, the limited Chinese levels of the native English-speaking participants required that the native Chinese-speaking participants use simple vocabulary, provide Pinyin when introducing a new word, and speak at a slower rate when using the voice function. Conversely, because the native Chinese-speaking participants were more advanced speakers of English, the native English-speaking participants were instructed to provide support in more linguistically advanced areas, such as word choice, slang, pragmatics, and advanced grammar use. After the program ended, the participants were asked to complete an online survey about their use and perceptions of WeChat in tandem language learning.

Data collection

This exploratory study recorded all of the dyads' conversations in WeChat and used an online survey to learn about the participants' use of WeChat in tandem language learning. The first section of the survey consisted of background information questions such as the participants' gender, age, first and target languages, and current target language levels. In order to answer the first research question, *how do Chinese-English dyads utilize the WeChat app for weekly language learning?*, open-ended questions which elicit information about the participants' language use in WeChat, frequency of using WeChat, and how they and their partners corrected each other's language errors were asked. In order to answer the second research question, *what are the perceptions of the Chinese-English dyads on the use of the WeChat app in language learning?*, open-ended questions, such as preference of chatting modes (WeChat vs. face-to-face), opinions on how effective they thought each WeChat function was on improving their language skills, whether there were specific benefits and drawbacks of WeChat, and suggestions for future WeChat tandem language learning, were asked in the third section of the survey.

Data analysis

First, in order to analyze the answers from the open-ended survey questions, the researchers read all of the participants' answers for each question separately and tried to identify patterns which appeared from the answers. The main topics we tried to examine include frequency and language use, error corrections, preferences of chatting modes, use of WeChat functions, benefits and drawbacks of using WeChat, and suggestions for future WeChat projects. Participants' survey answers which addressed the targeted topics with different perspectives were grouped into different themes under each topic. After each researcher finished his or her own coding, the two researchers sent their work to each other for review. After reviewing each other's work, discussions took place for the grouping with which the researchers did not agree. Finally, the researchers came to a conclusion as a team. The inter-rater reliability in this study before discussion was 98%. Second, transcripts from the dyads' interactions in WeChat were used as a second data source to confirm the findings from the survey. To be specific, figures related to the frequency of language use and the frequency of error corrections in the WeChat records were reported and conversation excerpts were used to illustrate how WeChat was used by the participants. In sum, this study utilized the survey responses to describe how the participants thought they used WeChat in tandem language learning and the WeChat records to illustrate the actual learning. In other words, the survey responses and the WeChat records helped elaborate on each other, and the use of both methods assisted this study to triangulate its findings to enhance the validity of the research.

Results

Frequency and language use

After the tandem language learning program ended, nine of the ten participants completed the survey. Among the nine participants who completed the survey, five of them reported using WeChat with their partners one to two times a week, two of them used it three to six times per week, and two of them used it multiple times a day. The WeChat records illustrated that the five dyads made a total of 100 conversations (note: A conversation is defined as the beginning to the end of a discussion on a single topic.), which contained 1561 turns taken. Within the 1561 turns, 1463 occurred using text functionality, while 31 occurred using voice functionality, 30 occurred using camera functionality, 22 occurred using emoticons, and 15 occurred using file sharing. It seems that the main function for communication between the dyads was the text function while the other functions were used as supplementary methods for communication.

When asked if the dyads spent equal amounts of time in the two target languages, which is ideal in tandem language learning, seven participants reported that they were unable to achieve a balance between English and Chinese, and two reported speaking half of the time in English and the other half in Chinese. The WeChat data was in agreement with the survey finding, which showed that more than half of the time (63%), the participants used English as the communication medium while Chinese was used 25% of the time, code-switching between English and Chinese was used 9% of the time, and the Chinese phonetic system, Pinyin, was used 3% of the time. A lack of Chinese by the English-speaking students was cited as the main reason by all seven participants who did not equally use English and

Chinese. One English-speaking participant stated, "I tried as much as possible to keep the conversation flowing rather than disjointed with what Chinese I knew." However, the same participant noted, "My lack of experience with the language rather limited my own ability to respond in Chinese as much as I would have liked." Another English-speaking participant added that because his partner knew English better than he knew Chinese, it was "natural to fall into English." This phenomenon was not an example of an ideal learning situation. Based on the sociocultural theory, meaningful social interaction plays a fundamental role in learning (Vygotsky, 1978). If the dyads used one language much more than the other, it would be challenging for the participants who did not use their target language enough in the interaction to acquire the language.

Excerpt 1 below illustrates how one pair of participants started a conversation in Chinese, but switched to English. It seems that the American partner was unsure about the information they received in Chinese and tried to confirm it in English.

Excerpt 1

American Partner: 你去别的人家的时候带不带礼物？带什么？

[When you visit someone, do you bring gifts? What would you bring?]

Chinese Partner: 因为我还没结婚所以不用带，但是我妈妈每个节日都会带，比如，春节会带糖果。中秋节会带月饼。

[Because I am not married, I don't need to bring anything, but my mother would bring gifts for every holiday. For example, she would bring candies for Chinese New Year and moon cakes for the Autumn Festival.]

American Partner: You bring things when you are married only?

Chinese Partner: Yes, I don't bring things to visit my friends, but for my friend's birthday, I do.

In order to achieve a balance between English and Chinese, some of the participants used certain strategies. For example, two Chinese participants reported trying to encourage the use of Chinese by asking their partners questions in Chinese and requesting that their partners reply in Chinese. One English participant said, "He [my partner] would ask me to reply in Chinese and would correct me when I did not." Another example is that one dyad agreed on setting specific times to practice each language to achieve balance in target language use on both ends.

Error corrections

When reporting on whether the participants attempted to correct their partners' errors, almost all of the participants reported positively. Only one native English-speaking participant expressed the difficulty of correcting speaking errors and one native Chinese-speaking participant reported not being able to correct all errors as there were too many to correct. However, the majority of the participants felt that error corrections were beneficial to their partners. Statements such as "I knew this [error corrections] could be just as an effective learning tool for her as it could for me" and "I think that [error corrections] can help her on her language learning" were made by the participants. With regards to whether or not participants felt their partners corrected their mistakes, only one Chinese- and four English-speaking participants reported that their partner had attempted to correct their mistakes. This result suggests that English errors made by the Chinese partners were corrected less

often than Chinese errors made by the English partners. The WeChat data also showed that there was an imbalance between English and Chinese error corrections. The English partners made a total of 36 Chinese errors, of which 15 (42%) were corrected. On the other hand, a total of 115 English errors were made by the Chinese partners, of which only 7 (6%) were corrected. The imbalance of error corrections made by the partners in Chinese and English could be due to the distinctive target language levels the partners had. It could be that the Chinese language production made by the native English-speaking participants at the novice level impeded the communication with their partners; therefore, their partners needed to clarify and correct mistakes in order to make the communication meaningful. Excerpt 2 below is an example of a Chinese partner trying to correct his or her American partner's error in order to avoid communication impediment.

Excerpt 2

American Partner: 我觉得飞行员的可以最好的
[I feel a pilot's can the best.]
Chinese Partner: What do you mean when you say "我觉得飞行员的可以最好的?"
[I feel a pilot's can the best?]
American Partner: I am trying to say "I think being a pilot may be the best job" but I think I forgot 是.[is]
Chinese Partner: "的" 不应该有，句子也不够完整
[Shouldn't use "的", the sentence is not complete, either.]
Chinese Partner: I think if you say a complete sentence would be better.
Chinese Partner: like this我觉得飞行员是最好的工作
[I feel being a pilot is the best job.]
American Partner: I'm sorry, I'm still very new to this. I'm trying.

On the other hand, the native Chinese speaking participants were at a more advanced level in their target language; hence, even with language errors, their partners were able to understand and continue the communication without error corrections. Excerpt 3 shows such an exchange.

Excerpt 3

Chinese Partner: By the way, are there something wrong or weird above? I usually mistakes when I say something long.
American Partner: No, I understand.
American Partner: Your English is good.

Another possible explanation for some of the participants not making corrections could be related to not wanting to appear arrogant to their partners as one participant expressed, "It is always difficult to correct someone's language abilities without sounding condescending." Nevertheless, when asked whether participants want their partners to correct their errors, all of the participants answered positively. The eagerness of the participants desire to be corrected illustrated that the participants recognized the role of their tandem partners as "experts," who were able to scaffold their learning in ZPD. Two of the English participants expressed a desire to have all of their errors corrected, while the other three believed that only the "big" mistakes should be corrected. One native English speaking participant explained that at the novice Chinese level, almost everything he produced needed to be

corrected, hence, he stated that "time should be prioritized according to seriousness of the error." On the other hand, the native Chinese speaking participants had varied answers on what errors should be corrected. For example, one participant preferred to have grammar, but not pronunciation corrected. The variations in answers could be because when reaching a higher level of proficiency, individual learners' development in different language skills have varied strengths and weaknesses; hence, the preferences for error corrections are also different.

Preference of chatting modes

When asked about chatting format preferences, six of the nine participants reported a preference for using WeChat and two participants reported a preference for both WeChat and face-to-face. The participants identified convenience and ease of communication as the main reasons for preferring WeChat. One participant stated, "I really liked WeChat and found it to be very useful instead of setting up a time that was convenient for both of us." Other participants also mentioned that WeChat was "quick" and "convenient" for asking questions and interacting in a different language. One participant stressed that using WeChat has no time-constraint. One can chat "anytime, anyplace." Excerpt 4 below illustrates how an American partner got instant response from his or her partner when he or she had a question regarding the Chinese particle, 吧 (ba).

Excerpt 4
American Partner: 吧 what is the pinyin for this?
[A particle]
Chinese Partner: ba, 轻音
[soft tone]

Another reason for preferring WeChat is having more time to think of how to use the target language. One participant explained that if in person, he would "just slip into English," their native language. Finally, one participant stated that WeChat helped him avoid the awkwardness he felt when meeting with language partners in person. It seems that the diverse functions of WeChat aided the smoothness, and decreased the awkwardness level, of the interactions for the participants, maximizing the effectiveness of the social interactions needed for language learning.

WeChat functions

When asked about the functions that participants found useful, all of the participants felt that some or all features of WeChat were useful. One participant stated that "every function in WeChat is useful, you just need to find the right way to use it." Three of the participants especially liked the voice function. One participant expressed that he liked it "because they [their partner] can hear your pronunciation." The other participant explained that "the voice function helped with correcting pronunciation errors." Another function that was useful for the participants was the text function, which made comprehension of the second language easier. One participant stated that with the text function, "I could take the time I needed to make sure I understood what was being said." Finally, one participant noted that being able to share music using the file sharing function was especially useful as it provided

a topic for discussion. The participant said, "Surprisingly, the song feature was useful. Me and my partner [sic] discussed music from our cultures via WeChat." Sociocultural theory argues that human beings develop through participation in not only linguistic, but also cultural settings (Lantolf, 2006). The fact that the dyad in this study utilized the cultural artifact, music, in their discussion illustrates how language learning can be effective not only by learning the linguistic aspects of the target language, but also by learning through the different artifacts of the target culture. Excerpt 5 is an example of how a dyad learned the second language through music discussion and sharing.

Excerpt 5

American Partner: How do you say "favorite song"?
Chinese Partner: 最喜欢的歌
[favorite song]
Chinese Partner: 最喜欢的歌
(The Chinese partner pronounced "favorite song" using the voice function)
American Partner: 你最喜欢什么歌？
[What is your favorite song?]
Chinese Partner: 有很多喜欢的歌，说不上最喜欢的
[I have many favorite songs, can't say which one is my favorite.]
Chinese Partner: 外面的世界
[The world outside]
Clown
Kiss the rain
(The Chinese partner was using the file sharing function to share music.)
Chinese Partner: 心情好会听比较欢快的，心情不好听比较悲伤的
[When I am in a good mood, I prefer to listen to happy songs. When I am in a bad mood, I prefer to listen to sad songs.]
Chinese Partner: 欢快的，huan kaui de, fast and happy
(The Chinese student retyped the vocabulary, "happy", and offered the pinyin and definition)
Chinese Partner: 悲伤的, bei shang de, sad
(The Chinese student retyped the vocabulary, "sad", and offered the pinyin and definition)
American Partner: 我要听！
[I want to listen!]

Benefits and drawbacks

The participants believed they benefited in different aspects of language learning from the WeChat tandem language learning program. First, WeChat created an environment where learners were able to produce authentic written and oral communication with their partners. One participant said, "I heard and participated in conversations that meant something to me, and that provided real-life context." The benefit of conversing in an authentic context is not restricted to oral language production as another participant stated, "It helped me to become more comfortable with chatting/typing in Chinese." Benefits in other language areas were also identified by the participants including grammar, vocabulary, and speaking.

In sum, the participants thought that WeChat was a useful tool in language learning as one participant mentioned, "I feel like it was helpful for me and a source I will use again."

Other than benefits in language learning, most of the participants believed that they also benefited in cultural learning and establishing social connections. Statements such as "It was cool to meet foreign people," "It helps to build friendships and establish other relationships," "I enjoyed talking to someone of a different culture," "I learned how to work with someone from a different culture," and "I learned some culture of US [the target language culture]" were made by the participants.

When asked about the drawbacks of the program, a couple participants mentioned the difficulty of making time for an out of class project and that it was "easy to forget/overlook when things get busy." The other drawback is the difficulty of expressing oneself. One participant noted, "It can be hard to express the right emotions as with any messaging program." Indeed, a lack of vocabulary in the target language or a lack of intercultural knowledge could lead to difficulty in communication with others in a second language (O'Dowd & Ritter, 2006). Finally, difficulty in finding topics to discuss is another drawback identified. One participant explained that because "the WeChat partners had no interaction in real-life, there was [sic] not many common topics to discuss. Sometimes when communicating, there was nothing to talk about."

Suggestions

The participants provided a wide variety of responses when asked about suggestions for improving the WeChat program. One suggestion from a participant was to plan outdoor activities to improve conversations on WeChat. She elaborated, "We can organize outdoor activities. This way it increases the opportunities of communication with our partners, which will help us have more common topics to discuss." The other participant suggested using native English-speaking participants from more advance Chinese classes. This could be due to the gap in language proficiency levels between the Chinese- and the English-speaking partners. While the native Chinese speaking participants were fairly fluent using English to chat about daily topics, the native English speaking participants lacked basic Chinese vocabulary and grammar to describe daily events, which did not make the conversation between the dyads as smooth as the native Chinese speaking participants would have liked. However, all of the participants reported enjoying the program, and expressed a desire to participate in the program again if given the opportunity. The participants commented that the program was "fantastic" and that they saw it as a benefit. One participant expressed that "having learned from this experience effective ways for tandem learning, I would definitely participate again."

Discussion

Akin to what the International Tandem Network (ETandem, 2001) suggested, this study found that in the specific learning context of the use of WeChat, the tandem language learning promoted highly authentic and meaningful communication. This is evident when this study found that peer error corrections mostly occurred only when they impeded the participants' communication. According to sociocultural theory, learning is a social process, which occurs during interactions with others (Vygotsky, 1978). The highly authentic communicational environment in WeChat provided learners an excellent atmosphere for second

language acquisition. In addition, Vygotsky stressed that children develop (e.g., learn how to act appropriately in their culture) from adults (experts) in their own culture. In applying the same concept to the second language learning context of this study, the findings showed that the participants not only acquired language skills, but also picked up cultural knowledge from their peer experts. This is evident when some of the participants reported learning how to work with someone from a different culture and learning new aspects of the target culture during the WeChat sessions.

In drawing on sociocultural theory, learning and communication in this project was mediated by the "WeChat" app and by the partner playing the role of "language expert" in the dyad. The app allowed participants to exert some element of control over the speed and content of the conversation which, some participants noted, facilitated understanding and reduced participant anxiety when speaking with a native speaker. However, the effect of ZPD did not reach its fullest in this study as the mediation provided by the "language expert" proved less successful, particularly for the participants learning Chinese as a second language. Both the survey results and the WeChat records seemed to suggest that the native Chinese speaking participants were often unable to communicate within the native English-speaking participants' Chinese linguistic ZPD. This was probably due to the wide gap in linguistic abilities between the two groups and the limited training that participants received on scaffolding their partners. As the participants sometimes were not able to complete an effective mediation, which is the first construct of sociocultural theory, it implies that the process of the second construct, internalizing the input received, might be difficult. In order to achieve more effective constructs of mediation and internalization, training on the scaffolding skills would be needed before a tandem language learning project starts. Although there were still drawbacks to overcome, the tandem project examined in this study was fairly successful considering that the majority of the participants commented positively.

Conclusion

In answering the first research question regarding how Chinese-English dyads utilize the WeChat app for weekly language learning, the frequency of the dyads using the app ranged from once to multiple times per week, with most of the dyads relying on more English than Chinese for communication. Even though they strived for a balance between the use of the two languages, the balance was not achieved due to the target language proficiency differences between the dyads. As a result, many of the conversations needed to be in English in order to have meaningful communication. Although studies have found that using each of the target languages with equal amount of time in tandem learning achieves the best learning results (Vassallo & Telles, 2006), sometimes it is difficult to comply with such a rule in reality. In the current study context, the researchers might have been able to find more proficient learners of Chinese for the intermediate to advanced Chinese learners of English. However, the researchers would have had a difficult time to find novice Chinese learners of English for the English participants who were at a novice Chinese level. The Chinese-speaking international students from China on campus had years of English language learning experience in China as English is a subject required in the school curriculum. It was almost impossible to find a Chinese student who was at the novice English level. In the study of a Skype online Chinese-English language exchange program, Tian and Wang (2010) also found a similar situation where English was the dominant language used in the exchanges. They identified this situation as challenging in managing the learning of

the pairs. This finding implies that in order to achieve a more balanced communication between dyads who are at different target language levels, more careful monitoring, program instruction, and training should be provided. For example, instructors can require the dyads to spend a minimum amount of time on each language. Moreover, throughout the program, instructors can periodically check on and guide the dyads' strategies they use to balance the use of the two target languages.

In terms of error corrections, although a couple participants expressed concerns about sounding condescending as an error corrector, the majority of the participants expressed a desire to be corrected. In addition, the findings regarding error corrections were only partially in agreement with other studies (Kabata & Edasawa, 2011; Priego, 2011; Sotillo, 2000). Like the participants in other studies, the participants in this study felt that error corrections could be beneficial in learning different language skills. However, unlike other studies which pointed out that many language learners helped correct their CMC tandem partners' errors, the error corrections in this study were mostly done only when the errors impeded communication. It is possible that participants saw a difference between using a social media app for tandem language learning (e.g., in this study) versus using it for the learning of a particular language skill in a classroom setting or as homework (e.g., in other studies). It seems that the main objective of the participants in the WeChat project was effective communication, and not improvement of a particular language skill. This finding implies that the WeChat app provided an environment closer to a real communication environment than other CMC tools, where the learners were able to comfortably chat in order to practice their target languages. This finding suggests that language instructors should take advantage of the nature of social media apps like WeChat when they try to provide an authentic communication environment for their learners to practice the target language.

In answering the second research question, *what are the perceptions of the Chinese-English dyads on the use of the WeChat app in language learning?*, after using WeChat, the majority of the participants preferred it over face-to-face learning. Like other studies have stressed (Ducate & Lomicka, 2013), the main factor for this preference is the ability to use it "anytime, anyplace." The participants also identified other advantages of WeChat over face-to-face learning, such as having time to think before replying to their partners and avoiding the awkwardness felt when meeting partners in person. In sum, the technology development in the app has provided a language learning environment that face-to-face learning cannot achieve. With respect to the multiple functions of WeChat, participants found many of them especially useful in their learning contexts. For example, the voice function assisted in their pronunciation and the texting function helped with their reading comprehension, while the file sharing function aided the dyads to share the same files for different topic and cultural discussions. These findings suggest that with the multi-functions of a single app in a single smartphone device, ways of learning a language have become more diversified and individual learning needs can be more easily satisfied. Indeed, the participants in this study named many benefits received from the use of WeChat such as language gains through language practice in authentic contexts, cultural learning, and making social connections. However, a couple participants expressed that a drawback of the use of WeChat was that when they were busy, it was easy to forget to use it. This finding implies that as smartphones can be used anytime anyplace without a set appointment time and location, it is easy to forget if one is busy with other tasks in life. This finding is similar to the results reported in some of the mobile learning studies (Stockwell, 2012; Viberg & Gronlund, 2013) where the boundaries between language learning and other tasks were blurred. However,

only two out of the nine participants identified it as a drawback. This could imply that as learners are getting used to using smartphones for different tasks in life including learning, fewer learners found it difficult to balance leisure and study. The other drawbacks identified are the difficulties of expressing oneself and finding topics to discuss with partners, both of which could be caused by the limited linguistic and cultural knowledge of the participants. To remedy these drawbacks, the participants suggested to hold outdoor activities for tandem partners to meet in person which will help create common topics for their learning through WeChat. This suggestion would only work for some learners though, as this study found that some of them felt awkward meeting in person. Another suggestion for tandem learning would be to pair up learners who have similar interests and hobbies.

Although this study has found mostly positive opinions about the use of WeChat in language learning, readers should be cautious that the study results cannot be automatically generalized to other populations due to the small (N = 10) sample size in this study. More studies are needed to confirm the findings of this study. As suggested by Ducate and Lomicka (2013), researchers and educators need to have more understanding of how language learners use mobile devices for learning and the effectiveness of these devices in language learning that are not limited to simple vocabulary or grammar drills. The current study is only an example of one way that smartphones could be used to produce authentic communication for language learning. In the future, more studies will be needed to investigate other methods of authentic language learning through smartphones. In addition, future studies with different research designs will be needed to confirm the findings in this study. For example, data collection tools such as learner diaries, learners' conversations, learning observations, and interviews, might bring in different aspects of language learning through the use of social media apps on smartphones.

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Author biodata

Ko-Yin Sung is Associate Professor of Chinese in the Department of Languages, Philosophy, and Communication Studies in the College of Humanities, Arts and Social Sciences at Utah State University. Her research interests include Chinese as a foreign language education and acquisition, Chinese language teaching and learning in dual language immersion contexts, and technology-assisted language learning.

Frederick Poole is a PhD candidate in the Instructional Technology and Learning Sciences program at Utah State University. His areas of research include gaming for language learning, collaborative reading environments for L2 learners, and learning in dual language immersion programs.