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USING MOBILE TECHNOLOGIES FOR SYNCHRONOUS CMC TO DEVELOP L2 ORAL PROFICIENCY

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As the use of the mobile technology grows increasingly ubiquitous among populations worldwide, it is essential that second language instructors, researchers and curriculum designers understand their full functional capacity before implementing mobile technologies into activities and assignments in second language classroom. This paper explores the range of potential for multimedia mobile technologies in developing L2 oral proficiency and focuses on synchronous communication in particular. The paper also addresses points to consider before implementing mobile technologies into L2 oral language instruction and makes recommendations for future research on the use of these technologies in developing oral, and other, language skills. Recognition of effective and appropriate uses for mobile technologies in synchronous CMC environments will help facilitate meaningful and effectual language learning and enable learning environments to transcend the physical boundaries of the classroom.

INTRODUCTION

As the world and the classroom undergo a shift "from print to post-print text cultures" it becomes increasingly challenging for language learning professionals to delineate concepts of literacy, proficiency and competency across linguistic skill sets (Lankshear, Gee, Knobel, & Searle, 1997, p. 3). Improving second language learners' oral skills in their L2 is beginning to require an increasingly multidimensional approach with persistent consideration of learners' capacities and contexts of learning.

Recently, a growing number of second language teachers and researchers have begun implementing synchronous CMC (Computer Mediated Communication) tools in the CALL (Computer Assisted Language Learning) classrooms devoted to developing L2 oral proficiency. Synchronous CMC tools allow for real-time communication across the skill sets of reading, writing, speaking and listening and it is expected that investigations will swell as new technologies allowing for synchronous CMC are introduced (Thorne, 2008). One of the most popular synchronous CMC technology, one that has transformed how teachers and students view the learning process, is mobile technology. These "mobile, wearable and pervasive technologies" allow language learning to become integrated into the current of students' everyday lives as learners' real and virtual environments merge (Hampel & Hauck, 2006, p. 16).

Mobile technologies are gaining popularity in developing L2 oral proficiency for a number of reasons. First, language learning in a second language context is not always a viable or realistic option for most language learners. The fact that many want or need to learn a second language, but not all learners are able to engage in face-to-face tutorials in a second language context has given way to commercial and academic institutions offering distance education courses for second language learning. Because distance education depends so heavily on technology, "appropriate technological media are a precondition of improved language learning in distance mode" (Wang, 2004, p. 374).

SYNCHRONOUS MOBILE TECHNOLOGIES USED IN DEVELOPING L2 ORAL PROFICIENCY

Products and Tools

When many think of mobile technology, cell phones typically come to mind. Multimedia cell phones, mobile phones equipped with audio and sometimes video recording devices, enable recording of students' oral speech. Such devices are of particular interest to second language instructors who wish to have students practice their oral language skills in in-class or at-home activities. Also, because multimedia phones are Internet accessible, voice emailing, Internet relay chat, instant messaging, audio conferencing and real-time voice chat are just a few of the means by which learners are allowed to interact in synchronous communication with other NNSs or NSs to practice their L2 oral language.

Another mobile technology that allows for learners to practice their L2 oral skills is the portable mp3 player. Mp3 players , like the iPod, one of the most popular mp3 players, allow for recording of digital audio files, accessing and manipulation of audio and video content and provide high-quality resolution in a compressed format that makes files easy to share. In asynchronous CMC, teachers may use portable mp3 players to develop students' oral language skills by designing projects or assignments that require students to create an audio (or sometimes audio and video) file called a podcast.

PDAs (Personal Digital Assistants) with multimedia capabilities also hold the potential for use in developing L2 oral proficiency. In addition to having Internet access, most PDAs also function as cell phones. Smartphones, like the BlackBerry, and Android phones, like the Motorola droid, are well-known examples. Though PDAs are not as proliferate as multimedia cell phones and iPods, they still hold possibilities for building students' oral proficiency, as they have Internet access, available USB cables or Bluetooth to connect to the Internet when wireless is unavailable, and audio/visual recording capabilities.

Programs and Applications

There are numerous free and commercial Internet-based programs and applications that allow for students to use their mobile technologies to engage in synchronous communication online. Many of these have been developed by curriculum designers or educational institutions to fit the needs of facilitating NS-NNS communication in distance learning environments or in foreign language learning settings.

One of the most popular synchronous voice chat programs is Skype. Not only does Skype provide real-time oral communication between any speaker who has downloaded the free program, but also it allows for video streaming and written text chat in addition to the audio. This synchronous communication replaces the delayed email exchanges with real-time chat exchanges and allows second language learners to practice oral production skills via mobile devices with native speakers from across the globe (Volle, 2005). The video accessibility enhances the real-time audio feature by allowing additional nonverbal language support (facial expressions, gestures, body language), a feature language learners often remark as extremely useful in developing their L2 oral proficiency (Robin, 2007).

A software program called MobiLearn permits students with PDAs to practice by repeating provided audios of NS pronunciation of words through a multimedia translator function. These "talking phrasebooks" work as voice recognition software, in a sense, as they offer audio clips of NSs pronouncing a word, then give learners a chance to practice saying the word into the device (Chinnery, 2006, p. 11). Because learners are given instant feedback, they can notice gaps in their own speech and that of the NS and make necessary adjustments in their pronunciation.

Commercial videoconferencing software, such as NetMeeting (a program that can be downloaded for free for Windows), is an Internet-based videoconferencing application that was designed specifically to enhance interactive language learning in distance education courses (Wang, 2004). NetMeeting and other programs like VideoVoxPhone and CUseeMe enable synchronous audio, video, simultaneous written text chat, document sharing, file transfers, and some whiteboard resources to users, and are used chiefly by instructors and students in distance language learning situations. This commercial software, along with programs like *Lyceum*, a similar Internet-based audio-graphics conferencing program developed by researchers at Open University in the UK, let students, tutors and instructors hear and speak to one another while attending real-time virtual classrooms (Hampel & Hauck, 2006).

AFFORDANCES OF SYNCHRONOUS CMC-CAPABLE MOBILE TECHNOLOGIES IN PROMOTING ORAL PROFICIENCY

Because mobile technologies are "no longer part of the specialized landscape of the L2 learner," but rather, "make up the everyday L1 machine-mediated world" of communication, the tools hold a wide range of potential for use in the second language learning classroom (Robin, 2007, p. 109). Use of mobile technologies for language learning would simply require tapping a pre-existing resource in the lives of many students. The International Telecommunication Union (ITU) expects cell phone subscriptions to surpass 5 billion in 2010 (Whitney, 2010). To claim this number is significant in consideration of the overall world population (6.8 billion) would be an understatement. It also seems the explosion in subscriptions is occurring in both developed and developing countries, and among younger and younger populations (eligible subscribers comprise those 13 years and older). The ITU also expects the demand for mobile access to the Internet to increase beyond 1 billion mobile broadband subscriptions within the year (Whitney, 2010). Reassigning the usage of the technologies for purposes that would help develop L2 oral proficiency would merely be taking full advantage an already widespread language learning resource.

User-friendliness

Because the mobile technologies are often an integral part of a student's daily life and students are often quite familiar with manipulating their devices' tools, capabilities and settings, incorporating the technologies into the learning process makes the means of learning user-friendly (Wang, 2004). Students' familiarity with the interface, especially when they are using owned personal devices, facilitates greater ease in the learning process through increased comfort with the environment. The learning process is more personalized through students' closeness with the learning medium, a factor that develops greater self-confidence in a language learner (Norbrook & Scott, 2003); as a result of increased confidence and feelings of familiarity, students' may be more willing to take risks in their L2.

Convenience

The portability of mobile technologies is another factor which motivates both language learners and language teachers to use them (Norbrook & Scott, 2003). Mobile media are more handy (more lightweight and transportable) than desktop or laptop computers and, therefore, more conveniently accessed. Because many learners carry mobile devices with them every day, students have the freedom to study when and where they want. Likewise, teachers using mobile technologies are able to update assignments, access student work and interact with students at their convenience.

Accessibility

Mobile technologies not only provide convenience for the teacher and learner, but the anytime anywhere dimension of synchronous CMC has been shown to release pressure from students who many feel overwhelmed by the aural and oral demands of face-to-face communication, making communication

more accessible. Unlike face-to-face communication, real-time computer-mediated conversations allow for a delay in response; this delay, permitting an increase in learners' reaction time, puts less pressure on students to speak quickly (Payne & Whitney, 2002). Also, research has shown that synchronous CMC environments encourage quieter students to interact more (Warschauer, 1996; Kern, 1995). Hesitant or shy students are more willing to participate in synchronous CMC conversations, sometimes even more than students who tend to dominate discussion in the physical environment of the classroom, perhaps because they feel less pressure from their interlocutors in an online environment (Warschauer, 1996).

Accessibility is also extended by the technologies' capacity to broaden students' access to native speakers of the L2, samples of the L2 and activities in the L2. In this way, mobile devices are particularly useful in foreign language settings or distance learning settings where students cannot practice their L2 in a shared physical setting with NSs. Synchronous CMC allows for students to participate in spontaneous production of their L2 in interactions with NSs, contributing to greater L2 oral fluency (Wang & Sun, 2001; Wang, 2004). Students may hone their pragmatic and discourse competencies with native speakers as they repair, clarify or confirm messages (Bachman & Palmer, 1996). In his study of NNS-NS face-to-face interaction, Linnell (1995) found that clarification requests on the part of the NNSs sparked not only greater syntax modification by the NNSs, but also NNSs noticing the gap between their speech and the speech of the NSs. This immediate feedback, whether from a NS or an instructor, concerning learners' oral production is invaluable to the learner (Thorton & Houser, 2003).

Learner autonomy

In many ways, the language learner is empowered through the use of mobile technologies. Murphy cites that autonomy, independence and responsibility are among the greatest assets of using mobile technologies in language learning (2008). The pacing of activity completion or material access is dependent on the students; as Payne and Whitney (2002) note, "the notion that learners can practice speaking in an environment where affect and rate of speech are minimized is very appealing" (p.25). In terms of developing oral proficiency, the student participating in a mobile language learning environment is empowered by experiencing a mixture of self-directed or instructor-directed classes. In voice chat rooms, through Net-conferencing or through live editing programs, the student participates in classes that are largely student-centered and student-dependent, as the learner's output is mandatory for task completion.

Cost-effectiveness

Institutional costs for learning materials may also be curbed if instructors are able to have students use their owned mobile phones, PDAs or iPods. Utilizing the multimedia tools students already own is a cost-effective means of enhancing learners' overall language learning experience (Wang, 2004). Additionally, because some synchronous communication-based programs and applications can be downloaded for free from the Internet, real-time CMC (whether mobile or static) remains a feasible and functional fixture in the promotion of language proficiency.

LIMITATIONS OF MOBILE TECHNOLOGIES IN DEVELOPING ORAL PROFICIENCY IN SYNCHRONOUS CMC

Incorporation of synchronous CMC activities that require oral production from speakers of lower language proficiency should be carefully considered before being implemented in the classroom. As noted by several researchers (Heins, Duensin, Stickler & Batstone, 2007; Kiernan & Aizawa, 2004; Wang, 2004), beginning language learners are more reticent and tend not to initiate exchanges in real-time conversations, especially when the interactions include NSs of the L2. Beginners' limited linguistic abilities require increased reliance on structured L2 input and, in general, beginners should not be

expected to provide large amounts of L2 oral output independently or dependently of prompts (Want, 2004). Also, because "negotiation of meaning can take a longer time or can be difficult...when the learner's proficiency is low", instructors should be selective about how and how often they include synchronous CMC activities in their beginner-level classes (p. 381).

Another limitation is that oral synchronous CMC carries a tendency to have learners concentrate more on the rate of production rather than on the accuracy of the language. Wang (2004) remarks that oral interaction in real-time contexts "offers more spontaneity and fluency than written interaction, but accuracy may be at risk because students do not have time to prepare what they wish to say in a real-time situation" (p. 381). This lack of attention to accuracy, on the students' and teachers' parts, may be detrimental to language learners, especially in preliminary stages of their L2 oral language development. Instructors must pay equal attention to precision of the language as they do to the fluency of the production (Harley, 1993).

Mobile technologies also present a diminished capacity for displaying quality audiovisual materials that may supplement instruction of oral practice than laptop or desktop computers. The reduced bandwidth of mobile technologies, as compared to PCs, complicates learners' accessing, dissemination and production of quality video and audio, causing side effects like distortion and screen freezing which interrupt the flow of synchronous speech. These obstacles to real-time interaction are shown to frustrate learners in addition to causing miscomprehension or unintelligibility (Wang, 2004). Acknowledgement of these limitations when designing a synchronous CMC activity that uses mobile technologies is crucial so complications that may discourage the learner from producing her L2 may be avoided.

Another technological difficulty accompanying mobile technology deals with the reliability and availability of Internet access. The synchronous aspect of real-time interaction in the L2 requires mobile technologies to have high-speed Internet access through a wireless router or cell phone provider. Easy internet access and strong connections or signals are not always available to distance learners studying in their home countries. Likewise there is an unequal distribution of Internet access and mobile technological advancements across socioeconomic classes and geopolitical spheres (Van Dijk, 2005). Instructors' knowledge of their learners' Internet access and technological capabilities is fundamental to choosing appropriate tasks and media that will promote L2 oral proficiency by realistic means.

To avoid letting the technological aspect of mobile learning environments become the primary focus of class activities, researchers (Copaert, 2004; Salaberry, 2001) suggest that in mobile language learning environments, as with computer-mediated learning environments, it is essential to first develop the language learning environment before determining the role of mobile technologies in the classroom. Mobile technologies "are not in and of themselves instructors; rather, they are instructional tools" which require thoughtful application (Chinnery, 2006, p. 9). As the focus on technology intensifies in a language learning course, it remains integral to "focus on the learner ahead of the technology" (Chinnery, 2006, p. 9). These recommendations are reasonable considering the temporal and monetary investments involved in the use of mobile technologies in the classroom and in light of the lack of evidence proving them to be more effective than traditional second language learning means (Beatty, 2003).

CONCLUSION AND RECOMMENDATIONS FOR FUTURE RESEARCH

As mobile technologies continue to become embedded in the personal lives of language learners, how the devices can be used to cultivate rich social interactions should be a principle concern for second language learning professionals. Interaction is "indispensable to language learning for the simple reason that language itself is a means of communication and interaction" (Wang, 2004, p. 374); thus, promoting learners' interaction in the L2 through readily available and multimedia means holds enormous potential

for developing not only L2 oral proficiency, but also receptive and productive language skills on the whole.

Revising how instructors and researchers see learning environments is a necessary first step in incorporating mobile technologies, or other emerging technologies, into the second language learning classroom. Hampel and Hauck (2006) argue that it "is not sufficient to see the new learning spaces as replicates of conventional face-to-face settings," but rather as blossoming, equally genuine arenas for authentic communication (p. 3). Revising our framework of what constitutes *environment* may require a reconceptualization of virtual realities as authentic communicative settings.

Limitations of both mobile technologies and synchronous CMC environments must also be investigated before claiming their effectiveness in building L2 oral language skills. Conducting further research on how students of varying proficiency levels can handle real-time communicative tasks is necessary to ensure speakers of lower proficiency levels do not fall behind or become less interactive in mobile-learning CMC environments. Adaptations of activities suitable for advanced or intermediate level learners may be necessary before overwhelming beginning learners with overly complicated oral production tasks in real-time situations.

The advancement of current and development of new, more sophisticated multimedia technologies is also needed. Multimedia-capable mobile technologies afford "anyplace-anytime access to and production of Internet-distributed text, video and audio resources," but the methods of interacting in visual and oral media are still limiting (Thorne, 2008, p. 8). Expanding existent technologies to include features that offer additional visual support (through video of interlocutors) and written textual support (through simultaneous access to online dictionaries, pronunciation guides or translators) may make the devices more appealing to instructors and learners for use in synchronous communication.

The rapid increase in the popularity of mobile technologies and their noted potential for multidirectional communication makes investigation of how the technologies can be used for synchronous communication a top priority for second language researchers. While Colpaert (2004) forecasts that "the mobile hype will burst out as soon as tools become available allowing teachers and researchers to develop their own mobile applications and tools," passively awaiting the peak of the mobile revolution or the introduction of a ground-breaking technology is unacceptable (p. 262). As Robin predicts (2007), "the frontier in language learning and technology will not be found in what program does what better, but rather which students use the off-the-shelf technology to best facilitate their own learning in their own learning style" (p. 109). Teachers, researchers and curriculum designers must be proactive in seeking effective, practical methods that encourage the development of L2 oral proficiency in second language learners while transforming the students' learning experience into a seamless part of their daily lives.

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