

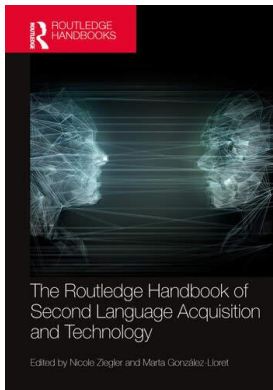
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Harnessing CMC to Foster L2 Oral Communication

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11

HARNESSING CMC TO FOSTER L2
ORAL COMMUNICATION*Kimberly Morris & Robert Blake***Introduction**

Language is used to achieve specific communicative functions or purposes, and thus constitutes “the heart of all social life” (Hall, 1999, p. 16). With the rise of globalization coupled with the recent growth in teaching and learning conducted via online platforms, much communication looks to the digital world as its primary locus. This turn of events has been further spurred by technological advancements (e.g., videoconferencing), institutional needs, student accommodations and, most recently, the fallout from the COVID-19 pandemic, resulting in an increased acceptance and normalization of online learning (Goertler, 2019). Fortunately, novel advancements in technology provide innovative tools for second language (L2) learners to engage in online language practice in new or more productive ways when compared to traditional face-to-face (F2F) classrooms (Arnold & Ducate, 2019; Blake & Guillén, 2020). Recent innovations in computer-mediated communication (CMC) offer some of the best examples of useful tools and techniques that foster both written and oral L2 production and promote the development of L2 proficiency. This chapter takes a special interest in the use of technology to foster human oral communication in L2 environments.

In a general sense, CMC can be carried out in two modes: synchronous and asynchronous. Synchronous CMC (or SCMC) involves a real-time communicative exchange between two or more interlocutors through dialogic mediums consisting of text, audio, and/or video. Asynchronous CMC (or APMC) occurs in deferred time and thus does not involve an instantaneous exchange of responses between interlocutors, but can also involve text, audio, and/or video. In the computer-assisted language learning (CALL) literature, APMC encompasses exchanges via e-mail, discussion forums, pre-recorded video messages, and even voice boards. Platforms that allow for audio or video postings are particularly relevant to the present chapter, as they foster oral communication rather than written production.

While the field of CALL has increasingly come to depend on real-time video tools, the use of asynchronous video—the ability to record video and then post the recording within a single learning management system (LMS)—constitutes a particularly attractive tool to augment L2 oral practice. Many LMS platforms provide users with an integrated tool to record video responses, erase them if so desired, and then rehearse and re-record them until the best performance is obtained. Stand-alone applications such as VoiceThread, Padlet, Flipgrid, Mote, and Nearpod, among others, can be used for the same purpose with or without direct integration into an LMS platform. The asynchronous video recordings completed by students are typically organized like a threaded text forum, allowing students to listen to peer responses and provide comments or

pose questions at will. The instructor may also record a model answer and provide feedback to the students in both written and video form. This versatile video recording feature encourages increased engagement with regard to both listening comprehension and oral production. These linguistic rehearsals are eminently suited to practicing complex L2 structures that would normally be well beyond the learner's short-term memory capabilities when speaking spontaneously in the target language. Since video posts are not conducted in real time, they remove the pressures of providing an immediate response, thereby offering more optimal conditions for learners to deal with the cognitive demands of L2 oral communication, in a similar way to the supportive environment provided by text chat (Payne, 2004).

Such asynchronous video postings aptly illustrate one of the most frequently cited benefits of CALL and online courses: Providing L2 students with more time to process and prepare their answers (Blake & Guillén, 2020, p. 73). L2 learners, especially those at the novice and intermediate levels, are frequently overwhelmed by L2 cognitive processing demands and routinely suffer from deficiencies in their working memory capacity in the target language. When asked to carry out a task in the L2, students are not only faced with the burden of creating coherent ideas, but also with constructing L2 discourse, along with all the appropriate syntactic, lexical, and morphological choices—to say nothing of assigning these structures a comprehensible phonological form. Providing learners with extra time to process a particular communicative task is crucial to successful outcomes and the development of oral fluency. Foster and Skehan (1999) have noted that “if one wants learners to draw upon more advanced language, and if one wants them to use this language with less hesitation and pausing, giving planning time is essential” (p. 396). This may explain why the extra planning time afforded by asynchronous tasks, such as video postings, can help to stimulate L2 oral language production. Accordingly, the goal of this chapter is to explore how both asynchronous and synchronous communicative oral exchanges impact L2 development, with special attention paid to the increased linguistic complexity afforded by additional planning time. But first, a brief review of relevant theoretical perspectives and research findings is called for, as provided in the following section.

Historical Perspectives

From a theoretical perspective, the importance of L2 oral exchanges—whether considering communication among L2 learners or between L2 learners and proficient L1 speakers—is ultimately framed by interaction and related models of L2 language development. All L2 learners—all humans, for that matter—share a basic trait of *homo socius* (Blake & Guillén, 2020, p. 67): we are all social beings who explore and mediate the world through our interactions with one another. This inherent characteristic of *homo socius* carries over into the digital realm as well.

CMC is firmly grounded on this social bedrock in which interactive exchanges occur, which is reflected in two theoretical perspectives that remain predominant in the field of SLA: the Interaction Hypothesis and Sociocultural Theory. Within the former perspective, L2 learning results from the negotiation of meaning that occurs through the exchange of input, output, noticing, feedback, and repairs (Long, 1996), while the latter approach conceptualizes learning as mediated through social interaction that provides helpful scaffolding in one's zone of proximal development (Lantolf & Thorne, 2006; Vygotsky, 1978). Although researchers continue to debate whether interactive exchanges occur in the social realm or the cognitive one, human interaction provides the common ground that sets the scene for most research studies in technology and oral communication.

Research based on interactionist theories of language learning surfaced in early studies of written CMC exchanges that explored the interactional processes stimulated by F2F communication, such as the negotiation of meaning, noticing, and corrective feedback (Blake, 2000; Smith, 2003). Further studies investigating skill transfer demonstrated that written CMC has a positive effect on the development of L2 oral proficiency (Beauvois, 1992; Payne & Whitney, 2002), although its

impact can vary depending on the topic discussed and the partner's attitudes (Tudini, 2003). At the turn of the century, having students participate in synchronous video communication was not yet a regular part of the L2 learning environment. Understandably, the impact of video exchanges framed by the Interaction Hypothesis had to wait for refinements in the digital tools and online platforms (Lee, 2007; Sauro, 2011). Nevertheless, early studies of oral CMC revealed that L2 learning can be facilitated by the negotiation of meaning that occurs during videoconferencing interactions from a distance (Wang, 2004, 2006, 2007). Since then, research has shown that the discourse found in video CMC does, indeed, provide similar benefits as those generated by F2F encounters (Canals, 2020; Yanguas & Bergin, 2018; Yilmaz, 2012; Ziegler, 2018).

Understandably, the written CMC format still tends to advantage learners with more time on task and less social pressure, two factors that favor the production of more complex language structures (Yanguas, 2010). In fact, Sykes (2005) found that L2 learners who engaged in written SCMC outperformed learners who engaged in oral SCMC or F2F communication with respect to the complexity and variety of strategies used to carry out the pragmatic speech act of refusing an invitation. While several studies have compared the effects of asynchronous CMC versus synchronous video exchanges on oral proficiency (Abrams, 2003; AbuSeileek & Qatawneh, 2013), little attention has been focused on the supporting role that asynchronous video postings can provide learners for L2 oral production. Both synchronous video CMC and asynchronous video postings can foster L2 development, but in different ways (see Rosell-Aguilar, 2005), as will be further discussed below.

In essence, collaborative exchanges, whether F2F or digital, get students ready to learn by focusing attention on unfamiliar structures (i.e., noticing the gap) (Gass, 1997; Long, 1996, Schmidt, 1990). Given the right circumstances, these interactions help to provide the appropriate scaffolding in the learning environment to stimulate L2 development (Swain & Lapkin, 1998). Textual exchanges have long been part of the L2 curriculum (i.e., email, e-forums, messaging), but digital oral exchanges through the medium of video have only recently come to the forefront, partially because the COVID-19 pandemic has left us little choice. Fortunately, recent improvements in the available digital tools have made oral digital conversations so easy to do. In the future, it is very likely that oral digital exchanges will become a mainstay of the L2 curriculum, not only because they engage learners in similar ways to F2F conversations, but also due to their convenience in terms of time and space, thus allowing for more varied and authentic interactions in the target language.

Critical Issues and Topics

The need for theoretically grounded technological tools and empirical research that supports their effectiveness in language classrooms has never been more pressing than at the present time. In fact, technology has become “so pervasive and so interwoven with human activity that to teach language without some form of technology would create a very limited and artificial learning environment” (Chun et al., 2016, p. 65). Educational institutions have turned to e-learning to accommodate both financial and structural considerations (Meskill & Anthony, 2015), a trend that has been exacerbated by the COVID-19 pandemic. In fact, in the spring of 2020, the bulk of post-secondary courses that were traditionally conducted in a F2F format transitioned to emergency remote instruction, paving the way for increased online learning that may be here to stay, at least for the foreseeable future (Li & Lalani, 2020).

With respect to cultivating L2 oral communication, it should be asked here which existing tools or tasks provide the most affordances with the least limitations? Fortunately, both SCMC and APMC tools, such as audio and video postings, provide increased flexibility with fewer spatial boundaries, thereby allowing a variety of tasks to be accomplished at any time and with interlocutors from around the globe. While synchronous tasks indeed allow for less flexibility due to their real-time nature, asynchronous tasks provide learners with additional processing time to

deal with the complex linguistic demands that could potentially interfere with task completion. Though this advantage was first noted in the written realm with text chat (Payne, 2004), its application in oral communication has remained underexplored. However, van der Zwaard and Bannink (2014) found that synchronous video exchanges tended to inhibit full sequences of negotiation of meaning because the L2 learners were hesitant to lose face in their interactions with native speakers, whereas in contrast, participants who engaged in text chat had little qualms about fully negotiating their misunderstandings. Nevertheless, CALL research has confirmed that oral tasks conducted in both modes can elicit more active participation than F2F environments, even among more timid students (for two reviews of primary research, see Lin, 2015 and Ziegler, 2016). Not surprisingly, autonomous learners have been found to be more successful in their L2 development in online environments due to their independent nature and heightened sense of individual agency (Arispe & Blake, 2012).

Aside from these advantages, SCMC and ACMC technologies can pose a steep learning curve, particularly among practitioners and students that lack technological experience and digital literacies. Certain tools also have drawbacks themselves, such as limited functionalities that simply cannot simulate an in-person exchange or fail to do so in an uninterrupted manner. Although having to interact with people through the screen can reduce some anxiety to use the target language (McNeil, 2014), it also can remove certain pragmatic and gestural nuances that may be captured more effectively in person, particularly when video is not shared (Kern & Develotte, 2018). While both synchronous and asynchronous oral communication can be supported in virtual language learning environments, it is the pedagogical goal at hand that should guide instruction, not the tool itself (Blake & Guillén, 2020).

Although technological tools can indeed provide innovative platforms for L2 learners to engage in target language oral practice, a tool can truly be considered an affordance when it 1) aligns with the given pedagogical objectives, 2) is perceived by users as facilitating meaningful interactions (Blin, 2016), and 3) ultimately pushes learners to develop their proficiency. One key characteristic of advanced L2 proficiency is the appropriate use of subordination, or the ability to utilize subordinate clauses to form complex sentences rather than relying on coordination to combine shorter independent clauses, which often gives the impression of choppy or unnatural discourse. In fact, Hunt's (1965) seminal work exploring written syntactic complexity among various age groups demonstrated that younger children tended to produce sentences that frequently relied on the use of run-ons and sentence fragments, while older children with higher linguistic maturity developed more sophisticated syntactic constructions, especially more use of subordination. Further research in L2 and foreign language studies also point to correlations between syntactic complexity and proficiency levels, although learning contexts and methods of rating proficiency can impact these relationships, as Ortega (2003) has pointed out. A meta-analysis of studies that examined L2 oral development in CMC contexts (Lin, 2015) confirmed a positive effect on proficiency with respect to syntactic development, though the same was not found to be true for accuracy and fluency.

By exploring the complexity of the language L2 learners produce, both researchers and practitioners can gain more insight into the state of their linguistic repertoire (Ortega, 2003), as well as the ways in which pedagogical interventions and various task types may influence learners' syntactic development and use in different contexts. The subsequent sections of this chapter examine how different synchronous and asynchronous CMC tools can be used to support the development of increasingly complex language. This critical issue of developing linguistic complexity, a topic at the heart of making L2 progress, will be discussed in further detail below.

Current Contributions and Research

Recent research exploring the impact of technology on L2 oral communication has spanned across two major learning environments: tutorial CALL and social CALL (Blake, 2017). While tutorial

CALL tasks push learners to engage in oral L2 practice by responding to computerized prompts (Hubbard & Bradin-Siskin, 2004), social CALL, also known as CMC, involves learners engaging in interactive oral exchanges with others, whether they are synchronous or asynchronous. Much of the CMC literature has dealt with textual exchanges where the words and dialogues the participants have produced remain on the screen during the interactions. This phenomenon of screen permanence is one of the advantages of digital communication that is hypothesized to support L2 processing and production (Payne, 2004). Video exchanges are another matter because they happen in real time with no written record, although most programs (e.g., Zoom, Skype, etc.) allow students the option of writing in a chat box at the same time they are talking to each other. Another difference between text-based CMC and videoconferences is the demand on L2 students to perform spontaneously, much like F2F conversations. Although video exchanges push L2 students to produce output, a necessary process for language acquisition (Swain, 2000), they also place additional pressures on learners and may lead to face-saving avoidances (van der Zwaard & Bannik, 2014).

Despite the time pressures of SCMC, additional literature has uncovered numerous benefits for L2 oral communication in a synchronous format. Videoconferencing tools such as Zoom, Skype, and Collaborate Ultra (among many others), provide learners with the opportunity to engage in oral L2 practice outside the traditional classroom walls. For instance, oral interactions conducted via Skype have indeed been shown to foster the negotiation of meaning among L2 learners, with CMC patterns conducted orally considered more versatile than those carried out in a written mode (Yanguas, 2010). Further evidence of oral Skype interactions is provided by Kato et al. (2016), who found a mutually beneficial increase in speaking abilities among Japanese students learning English and American students learning Japanese, as demonstrated by significant gains in mean utterance length and speech rate. In addition, Ziegler (2018) uncovered that task modality matters when it comes to noticing and error correction, as recasts provided to ESL learners who conducted information-gap tasks in video-chat formats resulted in higher salience of target forms than those provided in a text-chat format.

In contrast to the performance time pressures encountered within the synchronous environment, asynchronous video posts allow students to practice at their leisure and re-record until they are satisfied with the final product. For example, Morris and Blake (2017) investigated how the task of asynchronous video posting impacted students' ability to handle linguistic structures of greater complexity than what might normally be expected during synchronous exchanges. Specifically, their case-study analysis examined the complexity of speech produced by four intermediate L2 Spanish virtual learners, with complexity conceptualized as the ability to handle subordinate clauses, as measured by the widely recognized standard of mean length of t-units (MLTU). For native speakers, there is generally more subordination used in Spanish than in English, given the linguistic nature of these two languages (Arcay Hands & Cossé, 2004; Neff et al., 2004). In addition, Spanish requires mood decisions (the indicative versus the subjunctive mood) to be made whenever a subordinate verb is conjugated—an additional morphological burden for these L2 learners over and above the problem of forming subordinate clauses. Skehan's (1998) Trade-Off Hypothesis would predict that L2 learners cannot be expected to handle increased complexity (subordination) while still maintaining accuracy, or vice versa.

In this study, Morris and Blake (2017) measured syntactic complexity by examining the MLTU ratios of three types of discourse produced by students: synchronous video chats, asynchronous video posts, and asynchronous written compositions. As expected, written compositions reflected the largest MLTU ratios, while the synchronous chats rendered the smallest number of subordinations. However, the MLTU data for the asynchronous video posts was closer in linguistic complexity (i.e., higher MLTU ratios) to those found in the compositions and less similar to the data for synchronous video chats. The students themselves remarked that video posts gave them more control and agency to check for errors and express what they wanted to without any time pressures. Nevertheless, none of the four students in this study performed with complete accuracy because of their failure to

make consistently correct mood choices. While it appears that subordination is within their grasp, the use of the correct mood morphology from a developmental perspective was beyond their intermediate interlanguage and remained a linguistic feature more likely found in speech of advanced L2 learners (see Collentine, 2010). Morris and Blake view these data as support for the notion that asynchronous video posts do provide a scaffolding effect for oral proficiency, approximating more target-like subordination through increased MLTU ratios. In this sense, assigning L2 learners the task of doing video posts appears to mitigate the hypothesis posed by Skehan (1998)—namely, that you can have either complexity or accuracy, but not both. In other words, asynchronous video posts offer a real affordance for developing syntactic complexity with respect to subordination in L2 speaking. However, accuracy in mood choices is a different matter because it appears to be developmentally out of reach for students at the intermediate level (Collentine, 2010).

CMC exchanges are not only important for providing a supportive environment in which to tackle more advanced language structures, but they also allow students to interact with international members of the target-language community directly through telecollaborations and teletandem oral exchanges (for more information on this topic, see Chapter 18 in this volume). Being able to connect globally using CMC tools motivates students to continue studying their particular L2 (Jauregi & Bañados, 2008). A telecollaborative curriculum with sound communicative tasks also allows L2 students to explore and better evaluate inaccurate stereotypes and generalizations about a specific place, its people, and other-worldliness in general (van der Kroon et al., 2015). In this light, CMC exchanges have a transformative effect on L2 learners' identity that extends far beyond the purely linguistic issues of language development (Leaver et al., 2020).

Main Research Methods

Although research on the impact of SCMC and ACMC on L2 oral proficiency has certainly grown in the last decade, the variety of methods used to explore how technology influences L2 speaking is as diverse as the notion of oral proficiency itself. Nevertheless, meta-analyses conducted by Lin (2015) and Ziegler (2016) support the argument that CMC has a significant positive effect on L2 learners' oral proficiency when compared to interactions conducted in F2F environments or to instruction with no interaction at all. Considering the wide array of synchronous and asynchronous technological tools that can be used to promote L2 speaking—from real-time videoconferencing to more rehearsed audio/video recordings—not to mention the many research questions one may pose related to oral communication, the methods utilized in recent research studies reflect the rapidly changing advancements in technology and the evolving needs of L2 teachers and learners.

According to Chun (2017), “CALL is a maturing area of research,” which calls on a variety of SLA methods to explore different aspects of language development (p. 396). For instance, quantitative methods have been utilized to explore different linguistic elements such as grammatical and strategic competence whereas more qualitative approaches have been employed to investigate topics such as target language interactions and cultural competency. Just as there is no single “theory of CALL” (Hubbard, 2008), there is no single research methodology for CALL studies (Chun, 2017), but rather many techniques that can be used to measure different variables in diverse contexts, depending on the research question at hand.

Research examining L2 oral development at the turn of the century often relied on experimental or quasi-experimental design. For instance, Payne and Whitney (2002) explored the impact of working memory on oral production, using pre- and post-tests with experimental and control groups, ultimately finding that SCMC increases L2 oral proficiency. Abrams (2003) took this design a step further by researching the impact of ACMC and SCMC on L2 oral proficiency, taking into account the number of words and units learners produced along with their syntactic complexity and lexical diversity. Though not experimental, Sauro (2012) also examined lexical and syntactic

complexity in chat transcripts and video-chat transcripts but found no significant differences. Other researchers, such as Smith (2012), have used eye-tracking methods to try to pinpoint the focus of learners' attention when dealing with recasts.

Following the social turn in SLA (Block, 2003), research methods in CALL shifted from being predominantly quantitative to more qualitative, reflecting the shifting epistemological debate about learning occurring in the cognitive realm versus the social realm. Aligning with a sociocultural perspective, Bax (2003; 2011) emphasized the importance of more qualitative, ethnographic approaches that account for the many factors that impact how technology is used for learning, including action research. Such an approach is accessible to all teachers who are interested in exploring how technology can support oral communication by designing an intervention, implementing it, analyzing how the action impacted learning, and reflecting upon the outcomes. Qualitative approaches have also been employed to explore how CMC exchanges impact the formation of L2 identity (Thorne et al., 2015). As technological tools continue to advance, so too must research related to their impact on communication in and across languages. Like all research, the methods utilized must align with the research question, theoretical framework, and context at hand. According to Chun (2017), "Mixed or multiple methods employed in a given study will yield the most comprehensive and persuasive results" when it comes to CALL research (p. 404). Ideally, the field will move forward further when results related to the quantitative measurement of linguistic skills are complemented with qualitative findings regarding learners' experiences and perceptions in their particular context.

Recommendations for Practice

The research findings chronicled in this chapter have significant implications for language classrooms, especially considering that the recent global pandemic has required teachers to reconceptualize how virtual tools can facilitate the type of collaborative interactions that are so crucial to L2 oral development.

One central consideration regarding oral communication through technology remains: What do instructors ask their students to do with these tools? More specifically, what are the specific conditions under which L2 learners carry out these interactions in order to promote negotiations of meaning along with the associated benefits? To this end, the nature of the curricular tasks themselves must be examined with a particular focus on task-based language teaching (Ellis, 2003; González-Lloret, 2016; Long, 2015; Willis & Willis, 2007). This methodology requires the instructor to design communicative activities that require the learners to carry out specific, meaningful, real-world tasks while often working collaboratively and keeping the main focus on meaning. As students solve these tasks together, they take notice of their linguistic gaps (e.g., problems with vocabulary, morphology, syntax) and then, try to negotiate a more complete understanding by analyzing their own interlanguage. The success of this approach is highly task sensitive. Well-designed oral tasks should prompt the learners to collaborate, negotiate, and resolve their linguistic difficulties (Pica et al., 1993; Robinson, 2011). However, designing productive L2 oral collaborative tasks is not readily obvious to most instructors and, thus, requires careful training in curriculum design that promotes collaborative dialogue and pushes learners toward these essential steps in L2 development. Accordingly, González-Lloret (2020) reminds practitioners that technology-mediated tasks should foster active collaboration between learners, in addition to having a focus on meaning, a communicative purpose, a connection to learners' authentic interests and needs, and an opportunity to reflect upon learning (see also González-Lloret & Ortega, 2014). Aside from promoting L2 oral proficiency, virtual exchanges can give learners a real purpose to use the target language to collaborate with others, thereby resulting in increased motivation to learn the L2 (Canals, 2020).

Well-designed technology-mediated tasks can facilitate oral communication through both synchronous and asynchronous modes. In fact, Payne (2020) recommends sequencing tasks from those that have a lower cognitive load, such as asynchronous assignments that allow time for pre-task planning, to those that involve a higher cognitive load, such as real-time synchronous discussions. This aligns with Morris and Blake's (2017) findings presented earlier about the affordances of asynchronous video postings. Specifically, eliminating the time pressures through asynchronous video postings gave the intermediate L2 learners sufficient processing time, which resulted in oral utterances of greater complexity, in a manner similar to when they were writing in the L2. In essence, the asynchronous videos had a bootstrapping effect that promoted more complexity through students' engagement with these oral production tasks. Consequently, videos posting do appear to provide an extremely useful staging or sequencing strategy, in Robinson's (2015) terms, between the extremes of writing with no performance pressure and oral communication with maximum pressure.

It is important to design synchronous and asynchronous tasks to take full advantage of each lesson's cultural and linguistic focus in ways that elicit meaningful oral communication. Carefully designed tasks that spark a sense of creativity in the students may even push them to tap into their inherent storytelling desires in the L2. In addition to *homo socius*, all students—all humans—wish to tell stories to an audience; in other words, our students possess the inherent trait of *homo fabulans*, “the storyteller” (Blake & Guillén, 2020, p. 3). In the process of telling stories without time pressures (i.e., recording video posts), L2 learners can rehearse the types of words and phrases needed to engage in spontaneous and more fluent oral exchanges, thereby “priming the pump” (Gass, 1997, p. 87) of L2 development. However, language instructors must realize that it is not the tool itself, but rather the task (Ohta, 2001) that can spark an increase in L2 oral communication.

While synchronous videoconferencing tools can foster L2 speaking and even boost learner autonomy (Lenkaitis, 2020), it is important to recognize the limitations they may pose, such as the *Zoom fatigue* increasingly experienced by users, along with the challenge of conversational turn-taking among groups larger than four to six individuals (Payne, 2020). Several recommendations are offered by Guillén et al. (2020) to help L2 learners and teachers move beyond videoconferencing platforms like Zoom in order to facilitate L2 oral development and human collaboration. Specifically, the authors consider mobile-assisted learning, tandem learning, and critical service learning to be fruitful alternatives that harness available technological tools to magnify human connection in and across languages. MALL tasks can encompass a variety of realms, including tutorial, content, creation, and communication (Pegrum, 2014; see Chapter 24 this volume). While tutorial apps like Quizlet and Duolingo account for the bulk of AppStore downloads (Sawin & Guillén, 2017), the other three realms are more likely to foster L2 speaking through platforms that are inherently more authentic, such as Instagram, YouTube, and WhatsApp, among many others. Authentic oral interactions can also be supported through telecollaboration tools that connect users who speak different languages, including *HelloTalk*, *Conversifi*, and *TalkAbroad*. Virtual exchanges conducted through such platforms can also foster intercultural competency (Warner-Ault, 2020), autonomy (Sama & Wu, 2019), and motivation (Canals, 2020)—all factors that contribute to enhancing L2 proficiency.

Expanding L2 interactions to serve community organizations in a virtual format can also support L2 oral development, as learners are pushed to actively collaborate and negotiate with different members involved in the partnership, such as partner organizations, faculty members, and other community members. According to Avineri and Perley (2019), such engagement fosters language learning in real and practical ways that call upon pragmatic and sociolinguistic competence in a variety of settings. Considering the myriad ways in which technology can facilitate communication among individuals who find themselves “distant in space, time, and culture” (Guillén et al., 2020, p. 321), the pandemic has bestowed upon us the opportunity, whether welcomed or not, to expand

our digital repertoire to connect with others in times of increased isolation, should we be fortunate enough to do so.

Future Directions

In addition to current advancements in technology, recent historical circumstances and the resulting institutional accommodations have called for a shift from traditional learning environments to technology-mediated learning contexts, necessitating platforms that can adapt to the needs of both teachers and learners. The empirical evidence reviewed in this chapter documents the use of digital tools to foster L2 oral communication in both synchronous and asynchronous modes. From a theoretical perspective, CMC technologies provide innovative ways to support oral interaction, thus pushing learners to move forward in their L2 development and leading them through such essential steps as the negotiation of meaning, noticing the gap, producing forced output, receiving positive and negative evidence, and repairing breakdowns in communication as they work to approximate target language norms. While research has confirmed that oral CMC tools indeed offer many affordances that support L2 development—such as reducing anxiety, providing additional processing time, easing memory burdens, and allowing for corrective feedback—pedagogical decisions should still be based on the learning objectives at hand rather than the functionalities defined by a specific technological tool.

Although the CALL field continues to make great strides exploring the impact of technology on L2 oral development, further avenues of research remain underexplored. For instance, the field would benefit from more longitudinal studies that investigate how the use of technology affects L2 learning over time to shed light on the long-term impact of specific CMC tools or tasks, such as asynchronous video recordings. Considering the shift toward virtual classroom technologies as a result of COVID-19, it is also essential to explore the challenges that world language educators in different classroom contexts have encountered along with the practices they have found to be successful in fostering L2 oral communication through CMC.

Of further interest to the field is the goal of stronger teacher preparation (King de Ramirez et al., 2021). As emphasized earlier, the quality and complexity of the language produced by learners carrying out a particular task is directly related to the design of the task itself (Ohta, 2001). For this reason, instructors would benefit from careful training in the design of authentic tasks that not only are meaningful to students, but also capitalize on the cultural content at hand while eliciting targeted vocabulary and grammar structures—all while taking into account the affordances and limitations of the technological tool being used to facilitate teaching and learning. As such, teacher preparation programs can better support future teachers for the realities they will face once they lead their own classrooms by integrating more rigorous preparation related to technology-enhanced methods of language teaching along with the theoretical and empirical background that informs different instructional tools and techniques (Haines, 2015; Hubbard, 2007; Kessler & Hubbard, 2017; Robb, 2006; Timpe-Laughlin et al., 2020).

On a final note, it is widely accepted that one of the main advantages that technology-mediated learning platforms afford is the elimination of spatial boundaries that traditional classroom walls presuppose. By expanding classroom boundaries through the use of technological tools, both practitioners and learners can help set a new precedent to communicate in more authentic ways with diverse speakers of the target language around the globe. While technology undoubtedly poses new challenges for many, well-prepared teachers can help L2 learners overcome these burdens by carefully designing accessible tasks and intentionally aligning them with contemporary theories and research in CALL-SLA. As language researchers and practitioners, it is both our privilege and responsibility to adapt to the ever-changing needs of our students and harness the present and future digital tools to maximize learners' social interactions in the target language, as this, in essence, is what makes us human.

Further Reading

Arnold, N., & Ducate, L. (Eds.) (2019). *Engaging language learners through CALL: From theory and research to informed practice*. Equinox Publishing Ltd.

As the third edition of this CALICO volume, this edited volume brings together recent research on the ways in which technology supports the development of different knowledge and skills involved in language learning. Integrated within each chapter is the theme of engaging learners with meaningful student-centered tasks based on authentic uses of technology.

Blake, R. & Guillén, G. (2020). *Brave new digital classroom*. Georgetown University Press.

The second edition of this text revisits the fundamental concepts and challenges of teaching a foreign or second language with technology. The authors tackle practical questions about choosing and implementing digital tools and explore how technology can shape literacy and identity.

González-Lloret, M. (2016). *A practical guide to integrating technology into task-based language teaching*. Georgetown University Press.

Like its name suggests, this text serves as a practical guide for those interested in technology-mediated task-based language teaching. The author situates this methodology within TBLT theory and carefully guides the reader through the design, implementation, and assessment of technology-mediated tasks for L2 learning and teaching.

Foreign Language Annals, 53 (2): Special issue on digital language learning (2020).

This special issue was released in response to the COVID-19 pandemic in 2020 to provide a research-based approach that addresses the diverse issues that language programs, practitioners, and learners face in the digital world, even during challenging times. The collection of articles provides a snapshot of the many resources, methods, and models to deal with existing challenges and plan for the future.

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