Preface

BACKGROUND

The field of Computer-Assisted Language Learning (CALL) has witnessed rapid development over the past five decades (for historical reviews see Chapelle, 2001; Fischer, 2008, 2013; Heift & Chapelle, 2012). This development is, in part, a result of the parallel development in computer technology and in Second Language Acquisition (SLA) theory and practice. On the one hand, the development of information and communication technology has provided CALL practitioners with increasingly refined and a wider range of technologies for language teaching and learning purposes. For example, the fast development and dissemination of Internet-based Web 2.0 technologies around the world has given rise to various types of Computer-Mediated Communication (CMC) activities that enable language teachers and learners to interact conveniently with each other globally. On the other hand, over the past three decades, the field of SLA has seen an increasingly wider range of perspectives for theorizing and researching second language (L2) learning (e.g., linguistic, psycholinguistic, cognitive, and sociocultural perspectives). For example, a recent edited volume by VanPatten and Williams (2007) features more than a dozen major SLA theories and their representative applications to second language teaching and learning.

The development in both computer technologies and SLA has motivated CALL researchers and practitioners to argue for closer connections between the two fields in order to better inform the theorization and practice of CALL. The interest and effort in this regard started in the 1980s and has continued to the present day. This is reflected in a series of position papers (e.g., Chapelle, 2009; Doughty, 1987; Fischer, 2013; Garrett, 1991, 2009; Thorne & Smith, 2011), monographs and/or edited volumes (e.g., Chapelle, 2001), and special editions of academic journals (e.g., the special editions of the 2009 *Modern Language Journal* and the 2011 *CALICO Journal*) published over the span of several decades.

To a certain extent, the existence of such a sustained line of arguments for better connecting CALL practices with SLA research reflects both opportunities and challenges involved in this endeavor. First, the considerable development in both CALL and SLA calls for renewed understanding of the relationship between the two. While the emphasis in the late 1980s and early 1990s was more about the necessity of utilizing SLA theories and research findings to justify CALL practices (Garrett, 1991; Doughty, 1987), a more recent conceptualization focuses on how CALL and SLA can be mutually reinforcing (e.g., Chapelle, 2009; Garrett, 2009). The evolving understanding of the relationship between CALL and SLA entails empirical research on the design, implementation, and evaluation of SLA-informed CALL practices. Second, making connections between CALL and SLA does not always occur automatically among CALL practitioners, especially when priority is placed on keeping updated on technological innovations. As Thorne and Smith (2011) observed: “...many CALL specialists have exhibited the understandable
tendency to become focused on the technology while perhaps attending less assiduously to emerging trends and current findings in second language acquisition, and more broadly, from research on human development” (p. 268). Finally, a better connection between CALL and SLA requires a more balanced representation of SLA theories in CALL research. As Fischer (2013) noted, the current CALL literature, with its major focus on Computer-Mediated Communication (CMC), particularly favors the social approaches to SLA that emphasize learner-external factors, and more research is needed to examine the learner-internal processes/factors involved in CALL-based L2 teaching and learning.

The aforementioned issues clearly call for empirical research that not only presents the design and implementation of SLA-informed CALL programs/projects but also examines their effects and evaluates their impact from multiple and balanced theoretical perspectives. Moreover, as Garrett (2009) observed, just as SLA as a field has focused predominantly on English and on a few other Western languages, there is a need for CALL researchers and practitioners to attend to non-Western languages (e.g., Chinese and Japanese) as well. Empirical CALL research on these underrepresented languages can both test and add to the generalizability of the existing findings.

Echoing such an understanding, this book represents a collective effort to contribute to the current CALL literature with the following features. First, it presents a collection of empirical studies that investigate/evaluate the effectiveness of SLA-informed CALL programs/projects. A range of theoretical perspectives related to language learning are drawn on, including, for example, an interactionist approach to SLA, Bayesian knowledge tracing (based on skill acquisition theory), functional linguistics, language socialization, communities of practice, and a sociocultural approach to SLA. Second, these studies demonstrate how various technologies and their applications can be used for assisting L2 teaching and learning. These include Skype-based telecollaboration, blogging, online social networking sites, Wiki, experimental CALL (eCALL), plagiarism detection software Turnitin, online courseware and video, and various researcher developed platforms. Third, a range of linguistic features, languages skills, and language teaching and learning related processes and factors are examined in this book. These include Chinese characters, L2 writing skills, pragmatic competence, language-related episodes, language socialization process, English articles, reference tracking skills in Chinese reading comprehension, collaborative peer dialogue for L2 writing, and beliefs in and attitudes toward CALL. In relation to the various targeted linguistic features and skills, a number of less represented languages in CALL research, including Chinese, Japanese, and French, are also examined in the book. Finally, this book presents an international perspective on CALL research as the international contributors examine their respective CALL programs/projects in various cultural contexts (e.g., China, France, Japan, Singapore, and USA). In presenting this collection of empirical studies on SLA-informed CALL, we hope to construct an evidence base to inform CALL researchers and practitioners for their future endeavors. The next section presents a more detailed introduction of the sections/chapters of this book.

**ORGANIZATION OF THE BOOK**

The book is divided into 5 sections. The themes of the 5 sections are: “Technology Integration for Second Language Research” (Section 1), “Technology Integration for Second Language Teaching” (Section 2), “Technology-Mediated Second Language Learning Processes” (Section 3), “Beliefs and Attitudes toward Technology Integration” (Section 4), and “Systematic Review of CALL Research” (Section 5).
Section 1: Technology Integration for Second Language Research

Section 1 includes two studies that demonstrate how computer technologies can allow researchers to precisely implement and administer language learning activities as well as to collect rich data for theory testing. Chapter 1 (Xu and Chang) presents two experiments that respectively investigated the effects of computer-assisted stroke animation (i.e., showing stroke order in writing characters) and visual chunking (i.e., creating larger processing units than strokes for character learning) on the learning L2 Chinese characters. Both experiments were informed by the Dual Coding Theory from cognitive psychology. Experiment one focused on the role of stroke animation. In this experiment, 36 beginning-level learners of Chinese enrolled in a US university were assigned to three learning conditions: an animation condition (in which the learners viewed the animated stroke order through short video clips), a reading condition (in which the learners only viewed the targeted characters on computer screen), and a writing condition (in which the learners practicing writing the targeted characters three times). The effects of the three learning conditions were assessed by a character recognition task and a character production task. As it turned out, animation and writing both led to more accurate and faster character recognition than reading; meanwhile, writing resulted in better character production than both animation and reading. Experiment two addressed the effects of visual chunking. Forty-eight beginning-level Chinese learners recruited from a US university were divided into two learning groups to learn 48 targeted characters: grouped (G) and distributed (D). For the G group, each learning session introduced characters that share the same radical (i.e., semantic component of a Chinese character); for the D group, each learning session introduced characters with different radicals. A set of four learning conditions were designed for all learners, namely chunking (i.e., viewing a video clip showing the incremental construction of a character with its constituent components), writing (i.e., handwriting a target character from memory), reading (i.e. viewing a target character), and stroke reporting (i.e., mentally counting the number of strokes and writing down one stroke as instructed). As with Experiment one, a character recognition task and a character production were used to assess the effects of learning. The results showed that neither group status (i.e., G vs. D) nor learning conditions (i.e., chunking, writing, reading, and stroke report) affected speed and accuracy of character recognition. However, an interaction effect was found for the measure of character production. Specifically, for the G group, chunking led to better score than writing and stroke-reporting, although it did not perform reading; for the D group, writing resulted in higher scores than stroke-reporting, although it did not outperform chunking and reading. Overall, the findings of this study illustrate a nuance picture regarding the effects of computer-assisted stroke animation and visual chunking in facilitating L2 Chinese character learning, that is, the effectiveness of the two learning mechanisms need to be evaluated in consideration of concurrent learning conditions as well as outcome measures.

In Chapter 2, Zhao reports on a study that examined the effectiveness of using Web-based experimental CALL (eCALL) for teaching English articles to EFL learners in China. Adopting the Bayesian knowledge-tracing model, Zhao’s eCALL system provided individualized learning programs based on the system’s moment-to-moment estimation of individual learners’ mastery of the target linguistic cues (i.e., the form-function mappings of English articles), that is, providing more practice opportunities for weakly mastered cues than strongly developed ones. The eCALL system was also able to document detailed information regarding learners’ engagement with learning, thereby providing valuable information of learning process. Ninety-five Chinese EFL learners recruited from a Chinese university were divided into three groups: a computerized Knowledge-Tracing group (KT), a computerized No-Knowledge-Tracing
group (NKT), and a control group. Over four days, the KT and NKT groups received two one-hour training on English articles through the online eCALL system. The training sessions focused on teaching 34 English article cues divided into two categories based on a functional linguistic analysis: general (i.e., semantically transparent mappings with high frequency of usage, such as using the to refer to a previous mentioned entity) and idiosyncratic (i.e., semantically opaque mappings with low frequency of usage, such as the-river and Ø-lake). Meanwhile, the control group practiced English writing and did not receive instruction/training on English articles. The effects of training was assessed by a computerized sentence-level cloze test administered three times to the participants: shortly before the first training session, immediately after the second training session, and two weeks after the second training session. The data was analyzed in accuracy and speed of response. The results showed that, although the KT and NKT groups both outperformed the control group, there was no difference between the two instructed groups in terms of accuracy and speed of response for processing both general and idiosyncratic article cues. The lack of an advantage of the KT group over the NKT group was attributed to the short period of training (a total of two hours for practicing 34 English article cues). However, a post-hoc analysis on the distinct learning curves of two representative cues provided useful information for determining the appropriate amount of training in future research.

Combining the data of the two instructed groups, the learning trajectories of general and idiosyncratic cues showed interesting patterns. For the measure of accuracy, general cues received higher accuracy scores than idiosyncratic cues at pre-test, and this pattern remained unchanged over time. Moreover, while the accuracy scores of both general and idiosyncratic cues showed significant improvement from pre-test to immediate posttest, the pattern differed between the two categories afterwards, that is, increased accuracy was observed from immediate to delayed posttests for general cues but not for idiosyncratic cues. For the measure of speed, although there was no difference between the two cue types at pre-test, the learners processed idiosyncratic cues significantly faster than general cues at both immediate and delayed posttests. On the other hand, the processing of both general and idiosyncratic cues became faster after training (as reflected by the significantly reduced response time). Meanwhile, although the processing speed became significantly slower at delayed posttest than at immediate posttest for both general and idiosyncratic cues, the processing speed was nonetheless faster at delayed posttest than at the pre-test, suggesting retained effect of training. Overall, this study explored the potential of an eCALL system in implementing an innovative theory-based instructional program. The findings can serve as a valuable reference for future research investigating the potential of eCALL systems.

Section 2: Technology Integration for Second Language Teaching

Section 2 presents four chapters that report on empirical studies that showed how computer technology can be used for teaching a variety of linguistic features, skills, and constructs (e.g., L2 writing, reference tracking skill, intercultural sensitivity). Chapter 3 (Kostka and Ebsworth) addresses the issue of plagiarism in L2 writing, which has become a challenge for educators. This is partly because of the easy access to online resources, and partly because of L2 learners’ relatively limited target language proficiency and their different cultural understanding of the concept of plagiarism in the target culture. To this end, Kostka and Ebsworth made a commendable effort that explored the potential of using Turnitin, a plagiarism detection software typically used for punitive purposes, for helping L2 English learners to develop their understanding of plagiarism in the context of a US university as well as their English writing skill. Taking a social view of learning academic writing, the authors examined how the use of Turnitin-mediated
L2 academic writing development. The focal participants were three ESL learners who completed three writing projects throughout one semester. *Turnitin* was introduced at the beginning of the semester and was used throughout the entire semester by both instructor and the learners in a variety of instructional and learning activities (e.g., submitting drafts to *Turnitin* to check the amount of matched text, in-class discussion of the matched texts, etc.). The data collected from a variety of sources (e.g., student writing products, class observations, student online blog entries, as well as interviews with the learners, the course instructor, and the program coordinator) showed several ways that *Turnitin* supported L2 academic writing development. For example, *Turnitin*’s matched-text function encouraged the learners to reflect upon whether their sources were appropriately cited, whether a citation was needed, to what extent their sources were credible, and whether there was a good balance between original ideas generated by themselves and information from sources. Moreover, the above-mentioned learning processes led to improvement in the learners’ academic writing skills, as comparisons of their writing drafts showed.

Switching to learners of L2 Chinese, Chapter 4 (Li) presents a study that examined the effectiveness of a computerized program for teaching and practicing zero anaphora inference skills in Chinese. Zero anaphora as a language-specific linguistic feature refers to the use of empty grammatical slot for referring to a previously occurred entity in the discourse. Because this linguistic feature is pervasive in Chinese but rarely exists in English, its accurate comprehension constitutes major difficulty for English native speakers learning L2 Chinese. To address this issue, Li first referred to psycholinguistic theories of reference tracking to decompose zero anaphora inference skill into three sub-skills. The teaching and practicing of the three sub-skills were computerized to ensure precise implementation. Specifically, two computer modules were developed for each of the three sub-skills. Meanwhile, the computer program was also designed to promote scaffolding (e.g., by providing various types of feedback on demand), engagement (e.g., by providing exercises with varying levels of difficulty), and reflection (e.g., by providing information that can induce reflection on learning). The effectiveness of the computer program was compared with that of teacher-led instruction that covered exactly the same instructional content. In this study, 45 American learners of Chinese recruited from second-year Chinese classes in a US university were randomly assigned to one of the three groups, a computer-assisted group (CALL), a classroom instruction group (Classroom), and a control group. Over two weeks, the CALL and Classroom groups engaged in their respective learning activities, while the control group did not receive instruction on zero anaphora inference. A written test assessing the three sub-skills was administered three times to the participants: immediately before, immediately after, and four weeks after the instructional activities. After the delayed posttest, the CALL and Classroom groups also completed questionnaires examining learner autonomy and learning strategy. The analysis based on the overall inference skill (i.e., combining scores reflecting three sub-skills) revealed that, while both CALL and Classroom groups showed significant improvement in accurate inference of zero anaphora from pre-test to immediately posttest, the CALL group retained the gain from immediate to delayed posttest but the Classroom group did not. Moreover, although both CALL and Classroom groups outperformed the control group at both immediate and delayed posttests, the CALL group’s scores were significantly higher than those of the Classroom group. Additional analyses on the three sub-skills showed similar patterns. That is, the CALL group generally performed better than the Classroom group, and both instructed groups outperformed the Control group. The edge of the CALL group over the Classroom group was attributed to the higher level of learner autonomy (as demonstrated by the results of the autonomy questionnaire survey), engagement in learning (as shown by the amount of extracurricular time spent on learning the targeted linguistic feature), and interest (as reflected in the post-instruction survey). A unique contribution of this study to the CALL literature is
that the computer program focused on a discourse-level linguistic feature (i.e., zero anaphora), which broadened the range of linguistic features that can be effectively taught through computer technology. Moreover, different from traditional CALL vs. Non-CALL comparative studies, the design, development, and implementation of the computer program was well grounded in psycholinguistic and pedagogical theories. Computer technology enabled precise implementation of the theory-based instruction, and proved to be (overall) more effective than classroom-based instruction.

Shifting to learners of L2 French, Chapter 5 (Garret-Rucks) presents a study that investigated the extent to which an online instructional module promoted cultural learning in L2 French. The study was motivated by a need to explore pedagogical means to foster cultural instruction in foreign language education in the US, as well as by the potential of Computer-Mediated Communication (CMC) in promoting intercultural exchanges. The participants were learners \( N = 13 \) enrolled in an elementary French course in the US. Over a period of five weeks, the participants were guided to complete an online instructional module (jointly supported by the courseware Blackboard and YouTube) for teaching one aspect of French culture, that is, French family life. The instruction consisted of two phases. During Phase One, the learners read authentic texts (written by native French speakers) about French family life. During Phase Two, the learners viewed four videos showing interviews with French native speakers coming from diverse background. These interviewees presented varied perspectives on French family life. In both phases, the learners were asked to first post their reactions to the instructional materials online and then to engage in online discussion on the topic. The learners’ postings made during the two phrases were subjected to theme analyses, and were then compared in terms of their ethnorealistic (i.e., acceptance, adaptation, and integration of target cultural norms) and ethnocentric (i.e., denial, defense, and minimization of target cultural norms) orientations. The results revealed a collective shift from a primary ethnorealistic understanding of French family life in Phrase One to a more ethnocentric orientation in Phrase Two. This finding contracted that of a related project that demonstrated a revised pattern of development of the learners’ intercultural orientation. After comparing instructional materials used in this study and those used in Garret-Rucks (2013), the finding reported in this chapter was attributed to a lack of explicit instruction on the target cultural phenomenon as well as the somewhat contradictory views on French family life expressed in the authentic texts and by the native interviewees. The results of this study have clear pedagogical implications for L2 cultural instruction in a foreign language learning context, that is, exposing elementary-level L2 learners to diverse cultural perspectives without explicit instruction on target cultural norms may negatively affect their cultural understanding. By presenting a case detailing what has not worked out well and comparing it with what has worked out well, this study can contribute to our current theorization and practice L2 cultural instruction through technology.

While the previous chapters in this section focus on using computer technology for teaching specific linguistic features and skills, Chapter 6 (Kitade) presents a study that, informed by sociocultural theory, explored how off-line peer collaborative dialogues among pre-service Japanese teachers conducted during asynchronous CMC activities with distant L2 Japanese learners could serve the purpose of teacher education. The participants were 17 pre-service Japanese language teachers divided into small groups to complete three interactive tasks with learners of L2 Japanese through asynchronous CMC. Each CMC-mediated task lasted for about three weeks, during which the instructors needed to work together (i.e., in the format of off-line peer collaborative dialogues conducted in a language lab) to prepare response postings to those created by the learners. The results showed that the off-line peer collaborative dialogues served as reflective practices to promote the teachers’ discussions on a variety of topics related to teaching Japanese, such as evaluating learners’ language use, determining the sources of linguistic errors,
considering optimal ways for providing feedback. Importantly, certain technological features afforded by asynchronous CMC facilitated the teachers’ collaborative reflective practices. For example, the time flexibility afforded by the technology enabled in-depth discussions among the teachers. In addition, logs of online exchanges and texts promoted the construction of intersubjectivity among the teachers. Overall, the findings suggest that the hybrid model combining online learner-teacher interactions and off-line peer dialogues among teachers can be a viable component of the pedagogy for L2 teacher education.

Section 3: Technology-Mediated Second Language Learning Processes

Section 3 includes four chapters that examine various L2 learning processes mediated by Computer-Mediated Communication (CMC). Chapter 7 (Ishihara and Takamiya) reports on a study that, based on theories of language socialization, explored the role of blogging in mediating L2 learners’ socialization process (with a special focus on the development of pragmatic competence) before and after studying abroad. The participants were three adult intermediate-level American learners of L2 Japanese. Over a period of 16 to 21 months, the learners blogged with Japanese native speakers in Japan before, during, and after their sojourn in Japan. During the same period, the learners were all enrolled in Japanese classes and received explicit instruction on Japanese pragmatics. The researchers focused on the learners’ blogging-related activities before and after study abroad, and collected data through multiple sources (e.g., blog entries and responses, video recordings of learner presentations and writing conferences, survey questionnaires, etc.). The results demonstrated that blogging, when combined with classroom-based instruction, facilitated the learners’ socialization into the target language community. A comparison of the content of the learners’ blogging interactions before and after study abroad showed a shift from a primary informational focus (e.g., exchanging factual knowledge) to a focus on critical analysis of cultural and societal issues related to Japan. Parallel to this process, the learners’ blogging-related interactions showed pragmatic development as reflected in their use of a wider range of address terms, incorporation of regional dialects and Japanese emotion symbols, and employment of gender-specific sentence-final particles. Moreover, the participants developed their style shift strategies over time, gradually incorporating plain forms in addition to honorific forms. In spite of these shared areas of pragmatic development, the documented blogging-related interactions also captured the individualized socialization processes of the learners as they negotiate their differential emerging identity over time.

Focusing on a different Web 2.0 technology, Chapter 8 (Diao) presents a study that examined whether and how L2 learners of Chinese developed their awareness of Chinese Internet Language (CIL) by engaging in linguistic practices at an online social networking site and through routine daily communication in a study abroad context. Drawing on theories of language socialization and community of practice, and adopting a case study approach, Diao focused on two adult American learners (Yun and Ellen) enrolled in an advanced Chinese class in a semester study abroad program in Shanghai (China). The data were collected longitudinally from a variety of sources, including CIL questionnaire (administered at the beginning and toward the end of the study abroad period), field notes, interviews, recordings of learners’ natural conversations with their immediate conversation partners (e.g., roommate, tutors, host family member), and learners’ postings and digital profiles on the largest China-based social networking site (i.e., Sina Weibo). As it turned out, although the instructor of the study abroad program intentionally introduced CIL in classroom instruction and asked the learners to use Sina Weibo, both learners showed moderate gain in their awareness of Chinese CIL (as measured by the CIL questionnaire) over time. An examination of the learners’ Sina Weibo postings showed that both Yun and Ellen remained largely
peripheral participants of the online social networking community throughout their sojourn. On the one hand, the number of their postings was small (i.e., 14 for Ellen and 5 for Yun); on the other hand, the content of their postings mainly reflected the topics discussed in their language classes. Moreover, neither Ellen nor Yun attempted to connect to Weibo users other than their instructor and classmates. Nevertheless, the two learners differed in their use of CIL forms in their Weibo postings and in their routine conversations: While Yun never used any CIL (in these two venues) during her sojourn, Ellen occasionally employed CILs. According to the author, this difference was attributable to the characteristics of the learners’ daily linguistics practices afforded by their respective living conditions. Ellen lived on campus and shared a room with a young Chinese college student who was an active user of Weibo and provided considerable input and modeling on the use of CIL; on their other hand, Yun lived with a host family who provided scarce opportunity for learning CIL. By illustrating the two learners’ limited engagement in online linguistic practice through a major Chinese social networking site and their moderate gain in CIL over time, the study points to the challenges of utilizing this technology for language teaching/learning in a study abroad context. The author’s discussion of the findings can also serve as a valuable reference for future instructors to design an effective pedagogy in incorporating this technology (i.e., online social networking) into L2 instruction.

Turing to Skype-mediated communication, Chapter 9 (Akiyama) reports on a study that adopted an interactionist approach to SLA to investigate the role of different Japanese lexical categories (i.e., noun, onomatopoeia) in affecting the type and frequency of Language-Related Episodes (LREs) emerging during telecollaboration. In this study, 12 beginning-level adult American learners recruited from an intensive Japanese class were paired with Japanese native speakers to conduct two online decision-making tasks. During the tasks, the participants needed to negotiate the meaning of 14 nouns (Task One) and 14 onomatopoeias (Task Two). In the first part of the analysis, the participants’ Skype-mediated conversations were analyzed in terms of different types of LREs (e.g., preemptive and reactive LREs). The results showed that lexical category affected the occurrence and uptake of different types of LREs. For example, significantly more preemptive LREs with a lexical focus were found during Task One (focusing on nouns) than during Task Two (focusing on onomatopoeia); significantly more reactive LREs with a phonological focus emerged during Task Two than during Task One; finally, significantly more uptakes of reactive LREs were found during Task Two than during Task One. In the second part of the analysis, Skype’s multimodal functions (e.g., text chat, Webcam, image sharing) were found to play a facilitative role during meaning negotiation of the targeted nouns and onomatopoeias by providing written and visual aid. Regarding the effects of lexical category on the use of the three multimodal functions afforded by Skype, the results showed that the image function was used more often during Task One (focusing on nouns) than during Task Two (focusing on onomatopoeias), and the reversed pattern was found for the Webcam function; finally, the text chat function was used equally often for both tasks. Overall, this study illustrates how Skype-mediated telecollaboration can facilitate a wide range of LREs, which are critical processes for L2 acquisition. The design of the learning tasks and the findings of this study can also inform instructors interested in incorporating Skype into L2 instruction.

In the last chapter in this section (Chapter 10), Li and Dell-Jones focused on wiki-based collaborative writing processes among EFL and ESL learners. Conceptualizing collaborative writing from the perspective of sociocultural theories, the authors explored how the various functions (e.g., Discussion, Comments, History, and Edit) provided by Wikispace mediated the learners’ collaborative writing efforts (i.e., negation of writing tasks and co-construction of writing products). The participants were
six intermediate-level EFL learners in China and six intermediate-level ESL learners in the US. The EFL and ESL learners were divided into small groups of three, and they engaged in their respective collaborative writing tasks. The results showed that the Discussion and Comment functions allowed both EFL and ESL learners to actively engage in task negotiation processes such as content discussion, social talk, task management, technical communication, and language negotiation. Different patterns of task negotiation, namely collectively contributing pattern (i.e., equal contribution of participants) and authoritative/responsive pattern (i.e., dominant contribution of one participant), emerged in both EFL and ESL groups’ interactions. Regarding text co-construction, the History and Edit functions enabled both EFL and ESL learners to collectively develop and revise their writing product through various editing processes such as addition, deletion, rephrasing, reordering, and correction. An analysis of the content of the editing processes revealed differential foci of EFL and ESL groups (e.g., the EFL groups focused more on coherence and accuracy while the ESL group mainly attended to genre development), which appeared to reflect the differences in the nature of writing tasks, the degree of homogeneity/diversity of L1 background, and the amount of extracurricular language exposure. The findings of this study suggest that a wiki can be a useful technological medium for developing L2 writing skills through learner collaboration.

Section 4: Beliefs and Attitudes toward Technology Integration

Section 4 contains three chapters that examine beliefs and attitudes toward technology integration among stakeholders (language learners and instructors) in three different cultural contexts, namely Singapore, Hong Kong, and France. The study reported in Chapter 11 (Zhang, Zhao, and Li) was contextualized in a unique sociolinguistic landscape of Singapore where Chinese is one of the three mother tongues yet of less social prominence than English. The authors examined Singaporean elementary school teachers’ attitudes toward and practice of integrating Information and Communication Technologies (ICTs) into Chinese language instruction. The study was guided by Ertmer’s two-tier framework for understanding teacher-external and teacher-internal factors that affect ICT integration into education (e.g., Ertmer, 1999, 2005) and adopted a mixed-method approach combining large-scale questionnaire surveys and focus group discussions. The participants were 311 primary school Chinese language teachers in Singapore who completed an online questionnaire survey soliciting four aspect of information regarding (1) perceived competence for using ICT, (2) resources and support for ICT integration, (3) perceived usefulness of ICT for teaching and learning Chinese, and (4) pedagogical use of ICT. A subset of 128 teachers participated in additional focus group discussions. Quantitative results showed that the participants generally held positive attitudes toward ICT use in teaching Chinese. A series of regression analyses showed that the teachers’ pedagogical use of ICT was predicated by perceived ICT competence, perceived usefulness, and resource and support. Results of the focus group discussion further showed that, while the teachers generally perceived ICT as effective means for Chinese teaching, they also voiced caution against excessive use of ICT. Moreover, the teachers mentioned four barriers for ICT integration into their teaching practice: (a) lack of fully developed instructional resources, (b) amount of time invested, (c) technological inconveniences, and (d) the impact of high-stake examinations. While these findings bear direct relevance to policy development in Singapore, the research method of this study can also be used to investigate beliefs and attitudes toward ICT use for language-teaching purposes in other countries/regions around the world.
Switching to a different geographic region (Hong Kong), Chapter 12 (Lee) focuses on understanding tutors’ attitudes toward online L2 English writing consultations implemented in a university in Hong Kong. The university offers three modes of writing consultations, namely a virtual mode (consultations conducted through an online text-based platform), a face-to-face mode, and a hybrid mode (a combination of virtual and face-to-face consultations). A survey questionnaire was administered to 10 tutors to assess their attitudes superficially toward the two online modes. The results showed that, on the positive side, the tutors generally favored the online modes of writing consultation (e.g., flexibility in scheduling, playing a complementary role for regular face-to-face interaction, and providing an alternative consultation experience for both tutors and tutees). On the other hand, the tutors also felt that the online modes did not encourage tutee-initiated interaction as much as tutor-initiated interaction, which made the learning process more passive in the online modes than in the face-to-face mode. As such, the tutors generally expressed reservation regarding replacing the face-to-face mode with the virtual mode (i.e., online-only mode). Based on the results of the questionnaire survey, the author further discussed ways of improving certain features of the virtual mode (e.g., adding a synchronous communication feature to the asynchronous platform) as well as ways to better prepare tutors for the relatively new modes of online consultation. Although this study is based on a specific project in a specific university, the reflections by the in-service tutors on the advantages and issues of online writing consultations can inform future researchers and educators to design and implement similar projects.

While the previous two chapters focus on teachers’ and tutors’ views toward technology integration, Chapter 13 (Prince) examines French EFL learners’ perception of a research-informed computer platform for English vocabulary learning (i.e., VocPAL) at a French university. The chapter starts with a detailed description of the development of VocPAL, citing cognitive theories of L2 learning as well as empirical evidence in SLA (e.g., the effects of frequency, involvement load, and attention to form on L2 learning). The key design feature of VocPAL is to promote the processing of form-meaning mappings through integrative use of sound, pictures, and various form-meaning association activities (e.g., translation, association exercise, and exposure to the targeted vocabulary items presented in stories). Recognizing the importance of learner perception in influencing the effectiveness of this researcher-designed CALL platform, the author collected responses to a survey questionnaire from 115 French learners, followed by interviews with a subset of participants who were either most satisfied or least satisfied with VocPAL. The results showed that the learners generally held positive views toward the use of VocPAL for vocabulary learning. Meanwhile, they expressed varied levels of satisfaction with the various activities/features offered through VocPAL. The association exercise and the use of pictures were considered to be useful for learning; however, the story feature (i.e., creating stories to string targeted vocabulary items together) was perceived to be not very motivating. This, according to the author, was attributed to the ways that the stories were structured and presented. These findings thus highlight the importance of careful design and implementation in the process of translating research-informed instructional proposals into practice.

Section 5: Systematic Review of CALL Research

The last section consists of one chapter (Chapter 14) that presents a review of research that focused on using CALL for teaching and learning vocabulary for young EFL/ESL learners. Highlighting the importance of connection CALL practice with SLA theory and research, Handley first outlined major findings in SLA regarding vocabulary acquisition (e.g., the role of intentional and incidental learning, the role of repetition, etc.). Then, she proposed four review questions with the following two as the foci of her study:
(1) What evidence is there that digital technologies facilitate vocabulary acquisition? (i.e., effectiveness of CALL) and (2) What insights can be gleaned regarding the use of digital technologies in vocabulary teaching in EFL/ESL? (i.e., implications). After several rounds of searching and screening, the author identified 22 studies published between 2004 and 2013 for further analysis. The studies were evaluated against four criteria: (a) relevance (to what extent is the study relevant to the research questions), (b) appropriateness (to what extent is the study’s research design appropriate), (c) trustworthiness (to what extent is the study’s overall methodology sound), and (d) contribution (a holistic evaluation based on the above three criteria). The results showed that regarding the first main review question (i.e., effectiveness of CALL), CALL programs informed by SLA theories and practices were found to be generally effective for vocabulary learning. Meanwhile, however, the author noted a need to improve the research methodology of a considerable portion of the reviewed studies (e.g., using standardized vocabulary test rather than researcher self-developed outcome measures to enhance comparison of research findings across studies). Regarding the second main review question (i.e., implication), the results showed that learners generally held positive views toward CALL-mediated vocabulary teaching and learning and that developing individualized proficiency-adjusted CALL programs could help foster and maintain learners’ positive attitudes.

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REFERENCES


