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The Forum

Aligning CALL with the Theory and Practice of Instructed SLA

Adrienne Wai Man Lew
Teachers College, Columbia University

With the availability of a wide range of information technologies in the 21st century, the second language (L2) classroom has by and large been transformed digitally. Such technological tools include, but are not limited to, authoring software and blogs, learning management systems (LMSs), online real-time texting via instant messengers (IMs) like *Google Talk*, audio-and video-conferencing through *Skype*, artificial intelligence (AI) and intelligent systems, speech recognition and pronunciation training technologies, mobile technologies, and even web-based social networking interfaces like *Facebook* and *Google Plus*. In a sense, computer-assisted language learning (CALL) seems to have brought about abundant opportunities for innovation and creativity vis-à-vis the language acquisition process. During the course of acquiring an L2, in particular, instructed learners are faced with the challenge of processing instructional input (e.g., from textbooks) and modified input (e.g., corrective feedback through teacher-learner interaction) for the underlying form-meaning-function relations of any linguistic structure of the target language (TL). In order to fully capitalize from this technology craze, therefore, it is essential that the properties and strengths of these technologies be thoroughly studied in ways that would bring their applications in spirit with the core theoretical underpinnings and principles of practice in instructed second language acquisition (SLA) and its related research.

According to Lamy and Hampel (2007), CALL has traditionally been under the influence of at least two schools of learning theories: (1) the cognitive SLA model, and (2) the sociocultural theory. These two theoretical frameworks are connected to each other in that the former precedes the latter over the course of the evolution of CALL. An outgrowth of behavioristic CALL, the cognitive SLA model sees the computer as a provider of drills to the learner, with cognitive objectives (e.g., automaticity and memory retrieval) being predominant. The move towards communicative CALL through the 1980s, in which machine-learner interaction rather than learner-learner computer-mediated contact was the focus, paved the way for the phase of integrative CALL from 1990s through to the 21st century. Sociocultural theory plays a major part in this transition due to the availability of multimedia-networked computers, which allows for multiple-learner access in a simultaneous, integrated manner. Specifically, several language skills (i.e., listening, speaking, reading, and writing) can be deployed all at one time, thereby approximating communication in non-computer-mediated environments much more closely. This very nature of multi-mode interaction is what enables CALL to accommodate sociocognitive and collaborative pedagogies to facilitate language learning potentially beyond the level attained by traditional face-to-face interaction.

That being the case, a closer examination of how CALL is played out in reality would reveal the following issues: (i) the lack of awareness that a single-paradigm framework may not be adequate to account for the intricacies involved in computer-mediated communication (CMC); and (ii) that CMC in practice may not adhere to the most fundamental spirit of instructed SLA of the interactionist tradition. In other words, there may well exist a dissociation of practice from theory.

A case in point for the first issue would be how real-time text chatting (e.g., via IMs) has been conceptualized and realized in studies of written corrective feedback (CF) (e.g., Bower & Kawaguchi, 2011). A considerable number of such studies have focused on the effects of the nature and characteristics of such non-face-to-face dyadic interaction between the instructor (often referred to as the native speaker or the NS) and the learner or the non-native speaker (NNS). Because of their primary focus on corrective recasts, which are relatively more externally observable, the studies tend to lend themselves solely to a more sociocultural and/or sociocognitive theoretical approach. What may have been overlooked, then, is the real-time cognitive processing, especially in terms of *simultaneous attention* on the part of both the learner and the interlocutor during negotiation of meaning, a characteristic of this particular type of CMC. The fact that online real-time text chatting by default draws both the parties' attention to any specific CF episode at hand definitely suggests a big step away from the CF episodes potentially not being attended to by the learner at all when they are given in an offline manner. An additional merit from this type of CMC is that any specific segment(s) of the chats can be copied and pasted and sent to the other party within seconds. In both cases, the improved orientation towards any focus on form (FonF) (Long, 1991; Long & Robinson, 1998) endeavor(s) apparently calls for a concurrent cognitive perspective being adopted (e.g., Sotillo, 2006, 2010) so that the role and impact of such simultaneous joint attention during the written CF episodes might be explored more microscopically.

As for the second issue, the potential dissociation between theory and practice of CALL can be seen along the line of the manipulation of level(s) of attention in instructed SLA research. Take the methodology of "think-aloud" protocols, which are typical of certain studies adopting a cognitive perspective, as an example. "Think-aloud" protocols have remained somewhat controversial because of the alleged "reactivity" effects on the learner. In this case, what is needed is not necessarily another theoretical perspective; rather, it might be more important to be flexible – or even creative – with the actual deployment of technologies (e.g., in deciding on the exact mode(s) of the delivery of input). Put another way, it is imperative that we remain open-minded regarding any sensible deployment possibilities – even if they are novel or relatively unheard of. For example: Could the actual format of "think-aloud" protocols be slightly modified such that participants could draw up diagrams, mind maps, flow charts, and so on using electronic sketch boards (preferably with memory functions) instead? Considering the fewer number of words and the more logically organized nature of these forms of sequencing one's reasoning, the learners may find them less attentionally taxing, and thereby less likely to drain a substantive amount of cognitive resources from the language learning or testing task. While there is still likely to be some time-lag between the learner's rate of thinking and his/her actual speed of drawing up these logical sequences, it somehow illustrates that existing methodology may go beyond the current level of effectiveness, should appropriate forms of CALL technologies be utilized alongside.

As much as information technologies have made language learning more interactive and dynamic, CMC is still only a form of assistance to both the learner and the teacher. Its effectiveness ultimately depends on the individual instructor, researcher, or even learner's mindset, flexibility, and creativity in the real-world applications of these technology tools.

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Adrienne Lew is an EdD student in Applied Linguistics at Teachers College. Her research interests include interlanguage fossilization and interlanguage semantics, with a focus on the role and impact of L2 input robustness. She is currently analyzing her data from an ESL textbook corpus she created for the pilot study of her dissertation.