

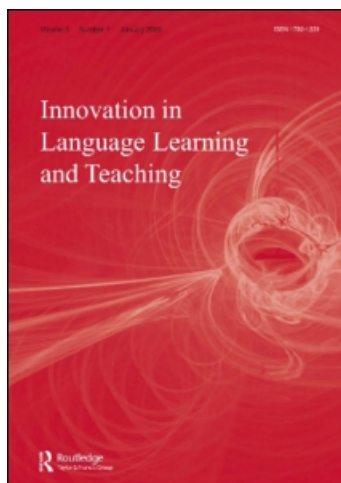
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CMC in language teacher education: learning with and through instructional conversations

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As the popularity of computer mediated communication (CMC) in language teaching continues to grow, questions regarding best practices arise. Whereas a number of recent studies have examined the online discourse of language *learners*, few have explored the potential of online instructional conversations for language *teacher* education. This paper discusses CMC as a venue where language teachers in development can explore instructional conversations while they are actively guided via models, practice, and analysis to understand and make good use of the affordances of CMC (Meskill and Anthony 2007a,b). Samples from online professional development for language educators illustrate the potential of CMC in serving teacher learning. The power and diversity of CMC to support development of language educators is presented via uses in (1) modeling online instructional conversations; (2) analyzing online instructional conversations; (3) experimenting with instructional conversations in blended environments; (4) as a practicum laboratory; and in (5) promoting ongoing professional engagement.

Keywords: CMC; language teacher education; instructional conversations; online learning; distance education

Language educator development

Broadly speaking, language teacher education is informed by theory, empirical research, and practical experience in the field. And, broadly speaking, it goes without saying that teaching and teacher preparation now includes uses and integration of technologies (Mishra and Koehler 2006). Only recently have possible roles for instructional technologies as tools for language educator development begun to be explored (see Hubbard and Levy 2006; *Language Learning Technology* 6, 3). This paper specifically investigates computer mediated communication (CMC) as a tool in language teacher development whereby its uses and special affordances complement and amplify best practices in the field. It is predicated on the assumption that human–human communication in online environments represents vast instructional possibilities both for learners and those preparing to teach them.

In online venues there are, on the one hand, infinite possibilities for informal, independent learning on the internet through searching, browsing, and accessing and submitting queries to search engines. On the other, with the advent of web 2.0, social gathering by personal or professional interest has become commonplace. Along with

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the growing popularity of fully online courses and online components of blended courses, opportunities to exploit asynchronous online features for language educator development are many and enticing and can well serve teacher professional development. Numerous studies on the use of online communication tools in teacher education reveal the dramatic power of professional development online (for example, Meskill and Anthony 2007a,b,c; Wegerif 1998; Wickstrom 2003) by way of instructional modeling, professional discourse opportunities, as well as the time, space and guidance needed for reflection. Moreover, because of the social activity that online communication affords, these forms of intellectual and professional development are a natural fit for the medium and, in this case, the content: language.

As previously stated, the major goals of language teacher development are mastery of second language acquisition theory, research, and practice. With this knowledge base, we guide educators in training to develop their own instructional strategies informed through observation, analysis, direct practice, and reflection. Central to these iterative processes is, of course, language: the language that one *teaches* and the language one *uses* to make learning happen. Effective teachers are thereby of necessity skilled communicators. Indeed, good use of language for instruction *is* essentially instruction in second and foreign language education.

Language educators are particularly well versed at issuing invitations to students based on an understanding of individual and group backgrounds and dispositions. An effective invitation is contextualized by the learning of the moment and by the ways students can be seen as re-contextualizing and making their own what is offered in the invitation. If the invitation is successful, learners will respond by re-contexting and responding to the invitation. This sort of conversational interaction closely resembles informal conversational structures whereby one interlocutor makes a conversation bid and the other responds in what s/he sees as a contextually responsive way. Contemporary views of teaching, particularly in language education, emphasize the centrality of this type of meaning-focused social exchange for effective learning. For the purpose of this paper, the term *instructional conversation* will be used when referring to such exchanges (Saunders, Goldenberg, and Hamann 1992).

As defined by Tharp and Gallimore, instructional conversations are those carefully calibrated and constructed things we say that comprise the essence of good teaching and learning. Good instructional conversations can be initiated and guided by both learners and instructors who recognize and respond appropriately to those teachable moments that present themselves in the course of human activity. This involves several kinds of understandings: understanding the aims of the learning, understanding the learner, understanding factors that constrain the conversation, understanding the importance of being open to multiple contingencies in the conversation, understanding what language would best bring about learner action and understanding, and the like. It is highly complex activity that skilled educators undertake with apparent ease as they assist learning.

Goldenberg (1991) categorizes these 'forms of assistance' as follows:

- Modeling
- Feedback
- Contingency management
- Instructing
- Questioning

Cognitive structuring
Task structuring

and states that ‘when these means of assistance are woven into meaningful dialogue during joint activity, there exists the instructional conversation, the sine qua non of teaching.’ (Tharp 1993, 273). In contrast to the more prevalent IRE and managerial forms of teacher talk, instructional conversations engage learners not in recitation of known answers (or punishment/remediation for unknown ones), but in thoughtful, engaging, communicative interaction. Learners thereby become fluent participants in the social/intellectual practices of the content area. Tharp and Gallimore (1988, 1991) describe instructional conversations as productive, interactive verbal strategies used by educators to engage learners in active thinking, negotiation of meaning, and, consequently, learning. Indeed, earlier research points to the power of CMC to engage language learners in highly motivating communicative practice while employing instructional strategies to focus learner attention on target language forms in their own, and in their online classmates’ output (Meskill and Anthony 2004, 2005, 2007a,b,c).

Computer mediated communication (CMC)

Like live classrooms, online venues are sociocultural systems with all the human complexities that such systems imply. Learners come to online instruction having had ample experience as social beings and are adept at making meaning, especially in recreational telecommunications environments. Everyday speech that involves situating, checking in, updating, referring to make connections, referring to preface, referring for fun, etc., is continually appropriated and evolved by contemporary telecommunicating peoples. Development of unique communicative skills that are both specific to online interaction and extendable to real life is a nearly inevitable outcome.

What is unique to CMC is that posters must adhere to the ‘principle of distant responsibility’ (Clark and Wilkes-Gibbs 1990, 490) Unlisted which requires that the writer try to make sure, roughly by the initiation of each new contribution, that the addressees should be able to understand the meaning of his last utterance to a criterion sufficient for current purposes. Adherence to the principle is reflected in the editing one does prior to posting – a review of sorts with the prevailing question being – *will the reader understand?* With subsequent edits aimed at satisfying the perceived needs of the reader. It is interesting for teacher learners to consider how this sort of pre-send review would be an ideal mechanism for instructors in live courses in that their responses would be more thoughtful, tailored and thereby instructional!

As such, there are special CMC affordances such as the *pre-send review* that can be exploited for the purposes of language teacher conceptual growth and practical development when instructional conversations are modeled, analyzed, and practiced. In this way teachers in training can hone their awareness of, and skills in instructional conversations generally, and their mastery of instructional conversations in online venues in particular.

Specific affordances of CMC that, when used well, potentially complement second language teaching and learning are the time and resources to:

- Think more carefully and complexly;
- Refer and anchor talk is replaced by hyperlinking;
- Compose more thoughtfully;
- Access resources and support when both reading and composing;
- Edit and revise;
- Archive for future reference (particularly powerful for teacher educators, it is upon these running records that subsequent curricula and activities can be built);
- Illustrate and illuminate effective instructional moves that include student turns; and
- Repeat – a common instructional strategy in the live classroom – is replaced by saturating, linking, and highlighting.

In addition to the mere fact of ample, available and archivable data of language in use, these affordances can benefit teachers in training in that teacher learners can be guided to focus on evidence of archived learner progress as part and parcel of meaning-focused conversations, something otherwise quite challenging in real time, face-to-face classrooms. Ongoing assessment of learner output and subsequent conversational moves that respond to the teachable moments these supply can be focal tools in language teacher preparation activities. Additionally, CMC affordances include the potential richness of social interaction, the kind of interaction so essential for SLA. In teacher professional development, exemplary interactions between experienced teachers and language learners can be made visible, analyzable and serve as models for their developing craft knowledge.

The following section directly illustrates five ways of utilizing CMC in teacher professional development with emphasis on the roles and anatomies of instructional conversations in language education. These five examples are of: modeling online instructional conversations, analyzing online instructional conversations, exploiting online conversations in blended courses, SLT online practical, and engaging in online professional collaborative exchanges. Samples are taken from several of the author's online teacher education courses that focus on language in education.

Some assumptions behind the learning activities from which these example sequences were taken are: first, the general trend in teacher education and language teacher development in particular away from teachers as receivers of 'how to' methods for their profession toward teachers as 'thinkers, decision-makers, and problem-posers' (Freeman 2007, 896) is central to their purposes and rationale. Second, the processes of teacher development are largely social. These processes are undertaken with fellow teacher learners, in-service educators, instructors, and other community members. Third, none of the participants in these illustrations was a novice to CMC. Many indeed had previously completed courses in fully online asynchronous formats. Finally, where deeper contextualization of such excerpts would be preferable, space is restricted. Thus, while providing some context, the key purpose of these examples is more to illustrate the possibilities of CMC in teacher education than to serve as actual research data.

The five categories of CMC uses in language teacher development evolved from the following questions and the examination of archived coursework:

- With a solid body of research illustrating the central importance of the instructional conversations that teachers orchestrate for effective learning, does moving instructional conversations to online venues and exploiting the special features of asynchronous venues make sense for language teacher education?
- What are some possible roles for this communication medium in language teacher development?

(1) CMC for modeling discourse

Research in teacher development has long underscored the tenacious impact of being in classrooms for the majority of one's life and the consequent development of one's understanding of teaching: put simply, we learn about teaching from having been taught. This 'apprenticeship of observation' is clearly one of the most influential factors in teacher development (Cazden and Beck 2003). Because teacher learners come equipped with notions of teaching that evolved from their own classroom learning, they consequently depend on the instructor and their peers to model and guide what productive instructional interactions may be similar or different from their prior experiences. Also, modeling instructional conversation strategies and behaviors that are particular to the medium is an essential task for new and practicing teachers who will no doubt employ CMC in their future and current professional lives. Like language teaching per se, this includes encouraging attending to the forms such conversations take. In online learner fora, an activity that promotes the attending to forms of instructional conversation models can be as simple as assigning learners to select examples from the course discussion archives and analyze these from an instructional conversation perspective.

In the following example, language educators in training were assigned to identify and analyze instructional conversation moves and strategies in an archived exchange of their choice. The selection could come from prior discussion threads in the course itself, from other online or blended courses, or from any internet venue where instructional conversations were occurring. They were provided two sets of tools to undertake their identification and discussion: *The Language of Teaching Well Online* (Meskill and Anthony 2007c) along with a synthesis of the Tharp and Gallimore anatomy of instructional conversations (Tharp and Gallimore 1991).

One teacher learner selected an archived conversation that occurred in another fully online asynchronous course she was taking at the time. In her analysis, she focuses on her instructor's use of specific strategies in modeling good instruction:

In order to check whether our class understands her lessons in using multimedia correctly or not, she asks us to create a lesson plan before we finish each module. (Invitation) She also provides a lesson plan template and links to online lesson plans. (Model) After the due date, she provides comments and suggestions to individuals (Evaluate, Feedback, Guide); and to make our class experiences on creating rubrics, she provides samples of rubrics and asks us to create a set of rubrics which related to our lessons. (Guide)

Building awareness of language in use, and language in use for teaching is an essential part of language teacher development (Ellis 1990) and one fully realizable in online fora (Uzuner 2007). By labeling and thereby giving specific language to these archived acts of teaching, teacher learners begin to build fluency in their metatalk about their craft.

Prior to wide access to CMC, this kind of activity was restricted to audio/video examples with transcriptions of face-to-face teaching and learning events, events that are typically quite messy in terms of language use. Online, however, language use is more clear and observable and, in this case, categorizable thus providing powerful data for teacher learners to study and learn from. Modeling also consists of teacher learners generating, examining, and responding to errors in English syntax as part of their professional development in online instructional strategies. Teacher learners can thereby directly participate in and witness language learners' metalinguistic/metasyntactic awareness in action (see Meskill and Anthony 2007a).

(2) CMC for analyzing instructional conversations

One of the most valuable tools in language teacher development is *data*, actual events in classrooms or elsewhere that can be revisited, analyzed, and learned from. In CMC, data in the way of instructional conversations are abundant. For example, by simply reviewing an online course module overall, a teacher learner can be asked to identify action zones, or those threaded conversations where the most interesting and productive talk is occurring and address the question *why?* What elements are present that render this talk engaging and productive?

In this selection, a teacher learner has opted to present her analysis of an instructional conversation that took place on a do-it-yourself home improvement site. (Figure 1).

By labeling and explicating the instructional conversation, the teacher learner demonstrates her growing awareness of, and fluency in the analysis of teaching and learning. In identifying instructional conversation moves that are unique to online venues (anchoring, questioning/inviting), she also reveals awareness of the medium's special affordances. It is this kind of awareness raising about both the anatomy of instructional conversations generally, and the particular anatomy of instructional conversations in online venues that this kind of activity facilitates. For teacher education, this awareness raising is critical to successful professional development and, prior to CMC, could only be accomplished via written transcripts of face-to-face classroom conversations. As is clear from this example, there are myriad examples of instructional conversations in digital form that can be harnessed into such awareness raising uses with teacher learners.

(3) CMC in blended professional development environments

In language education, the opportunities for blended enhancements to live classroom teaching and learning are extraordinary. The fact of the running transcript of learners using the target language in the online portion of the class means a ready-made basis for task and activity design. How often has a language teacher lamented that she didn't have a written record of her learners' use of the target language? Blended environments offer the best of both worlds in this respect. There is the spontaneity and focus on productive meaning-making while providing evidence of


<p>July 5, 2005</p> <p>Removing Hard-to-Remove Linoleum Remnants</p>  <p>Our contractor has not been able to get these bits of old linoleum off the wood floor in one corner of what will be our living room. Big bummer. Anyone have any special tips? We not thrilled with living with this crap on the floor or the alternative of replacing the floor. There has to be some secret technique...</p>	<p>Referring/Anchoring</p> <p>The original poster inserted a picture to demonstrate the problem. This digital image identifies the problem and anchors the entire conversation.</p> <p>Questioning: Numerous “how to” websites have forums where users post questions. It is a great way to get answers from a variety of people.</p>
<p>Try dry ice. I believe I saw that recommended on This Old House.</p> <p>Good luck!</p> <p>Posted by: Anonymous at July 5, 2005 12:09 PM</p>	<p>Directions/ Suggestions: People offer suggestions or give actual step by step directions how to solve problems. Here the post’s author offered the suggestion of using “dry ice”. They did not say how to use dry ice.</p> <p>Referencing: Authors of posts often make a reference to where they heard their information from. This helps to give their posts more credibility.</p>
<p>Industrial strength paint stripper will melt them and (more importantly) will take off the glue used to hold them down.</p> <p>Posted by: M July 5, 2005 3:00 PM</p>	<p>Directions/Suggestions: This author is giving a suggestion by describing what paint thinner would do.</p>

Figure 1. Labeling the instructional conversation.

language learning as regards what and when additional teaching needs to occur to push the learning along.

In a recent study that examined communication patterns of blended courses, Johnson-Taylor found that oftentimes conversations that began in the live classroom carried over and became enriched in the online portion of blended courses. A conversational topic that in a live course would have potentially ended due to time or interest limitation continues in asynchronous CMC meetings and assignments. Indeed, the focal instructor in Johnson-Taylor's study of teacher learners purposefully made connections between live and online conversations to advantage deeper learning (Johnson-Taylor 2005).

In this example of a live, face-to-face class, teacher learners have been asked to take turns conducting short lessons using the projected computer screen if and when needed. Six teacher learners take on the roles of students and the seventh as teacher. Other teacher learners observe and transcribe the conversation. This segment is part of a longer conversation about food and cultural identity.

T : What is special in your place? We have different cultures, you were born?

What is a special food for special occasion?

S1: Duck.

S2: Maple syrup is hard to get

S3: Like rubber tapping

S2: You can't eat the rubber.

T: You're from Japan. I like sushi.

Why do you think sushi is important?

S4: It's expensive.

S5: Does it reflect your cultural identity?

S4: It symbolizes the ocean, accessible, part of our lives.

S6: Japanese are skinny because they eat fish.

T : What is so special in your culture?

S6: Durians. It's prickly, stinks, You can't take it on the train. It's more like a dessert.

S5: I think I saw one in the grocery store.

T : Where can we find a picture of a durian?

OK. Let's open a new window. (All eyes are on the screen)

T : Let's see. (All gather around to see) This is not what you were thinking of.

But you know what sushi is, right.

T : Why is it so special/valuable to the people of Singapore.

S5: You can't get it here. You can get it from Asia.

S1: It's specific to you culture?

S6: It's specific to my region.

S2: These, like maple syrup, are from nature.

T : It's unique to your culture like sushi is unique to your culture.

The transcribed segment was posted to the class website and subjected to a two-week long analysis by the class. Observations and insights included the messiness of live conversation in terms of topic adherence and turn taking, something that tends not to be the case in asynchronous online venues. The teacher-leader of the transcribed conversation noted the difficulty of keeping even this small number of learners on topic in the live venue and reflected that in online fora, that one task – topic maintenance – would be less demanding and would be likely to run more smoothly. Those who had participated as students in the transcribed conversation reflected that the adrenaline of the moment was greasing the wheels in their minds and stimulating any number of thoughts and associations on the fly, something that asynchronous venues lack. In all, the close examination and careful identification of these

conversational moves opened up rich discussion about both the demands and strategic speaking involved in orchestrating live instructional conversations and how live and online instructional conversations are markedly different yet, as was the case in this exercise, potentially complementary.

The opposite technique – taking a transcript from the online portion of the course and subjecting it to live group analysis – is also a fruitful one. When topics and comments made online are immediately relevant to the live discussion, the actual discussion entries can be accessed and examined as part of that discussion. The result is enrichment and valuing what teacher learners do in the spaces between live meetings while supplying the kind of articulation of concepts and ideas that are composed in writing versus those made on the fly in real time. In terms of drawing focus to and highlighting particular uses of language, referring back to the online portion of class discussion is a highly effective pedagogical technique in language education generally (Meskill and Anthony 2005). In short, in blended environments CMC provides tools and opportunities the teacher professional development has never before enjoyed.

(4) The SLT practicum/online laboratory

In traditional non-CMC teacher development, fluency pairs or fluency journals are opportunities for teachers to undertake microanalyses of their own instructional conversations and pinpoint specific instructional moves that they see as exemplary or needing adjustment. These observations are subsequently shared with colleagues who in turn learn and offer learning around them.

For teacher learners with little or no experience with representatives of the target learner group they plan to teach, setting up online practica in the form of fluency pairs is a simple and effective means of their gaining valuable experience. By communicating with and indeed teaching target learners in a one-on-one fluency pairs, teacher learners can be introduced and guided in working with target learners. TESOL teachers in training, for example, were paired with intensive English learner undergraduates for fluency journal work online. Weekly, tutor and tutee would correspond via email on topics designed by the teacher learner in consultation with her methodology instructor and class colleagues. Transcripts of the weekly interchanges were used to provide guidance and suggest instructional conversation strategies, in short, as primary instructional materials for the methods course. Final reflections and summaries of the fluency journaling pairs made use of these archived conversations as the focus. Teacher learners thereby gained valuable experience working with target learners in highly productive environments, ones that supplied a continuous data set with which to think and learn about teaching ESL, something otherwise quite challenging to accomplish in real time contexts.

(5) CMC for promoting professional engagement and dialog

Listening to others and to oneself posing and reasoning through instructional problems is considered a highly productive form of professional development. In the long view, nurturing established dispositions for the awareness raising that goes on in professional dialog is the hallmark of a life-long learner (Brophy and Good 1986; Darling-Hammond 1999; Haigh 2005; Larson 2000). Moreover, there is strong evidence that sustained professional engagement with peers, mentors and the sharing

of new ideas has positive effects on students learning (Langer 2004). Using CMC, then, for sustained professional development can promote teacher socialization and consequent fluency in online discourse communities. At this same time, ongoing contact with peers guarantees 'No Teacher Left Alone' (NRC 2007, 11).

Meskill et al.'s (2006) study of orchestrated professional development conversations, for example, demonstrates the roles that simple email can play in facilitating and encouraging the kinds of professional dialog in which all educators ideally engage. In this year-long project, trios of pre-service, in-service and doctoral students in language education technology were matched up with the broad goal of thoughtful integration of instructional technologies into the in-service teacher's classroom practices. The pre-service teachers had completed a semester-long course in instructional technologies in language in education and therefore brought their newly honed expertise. The doctoral students, who were quite well versed in the theoretical and empirical work in instructional technologies in language education, brought this expertise as well as a strong need and desire to observe direct implementations in schools. The in-service teachers brought to the communication their ample expertise as day-to-day practitioners in complex contexts.

Each pre-service teacher was assigned to work in the in-service teacher's classroom on a weekly basis during the school year as part of their teaching practica. Six groups of three participants corresponded regularly via CMC concerning the in-service teacher's uses of technology and the pre-service teacher's understanding of those uses. Guidance on the part of the well-read doctoral students – it was this group that was responsible for initiating and sustaining the three-way conversation – brought both the pre and the in-service teachers into dialog that informed and brought an outside dimension to their practical experiments with classroom technologies. For the pre-service teachers, the opportunity to engage with more informed others as a novice professional helped shaped the disposition to undertake more of this kind of engagement with others while for the in-service teacher, the convenience of professional collaborators via email make professional development ready and enjoyable. For the doctoral students whose work is about teaching language with technology, the privilege of a window into actual practices was highly beneficial. Indeed, for all participants, ongoing opportunity to collaborate online about their shared knowledges and experiences proved powerful (Meskill et al. 2006). Such instructional conversations should remind us of the value of ongoing professional exchanges – how much we can learn about our own practices and beliefs through professional dialoging with others. They also underscore the roles that CMC can play in making such exchanges viable and convenient for busy educators.

Discussion

Online learning processes are an interesting mix of independent learning – the learner making decisions and investing effort on her own – and collective and collaborative learning – the learner using the thoughts and behaviors of others in monitoring and shaping her own participation. This is not unlike what students do in live classrooms save that the sense of participation that develops is less negotiated as a group and is more heavily shaped by individual dispositions and resulting patterns of participation. Indeed, an often cited strategy that online learners employ is one that I have come to think of as *scouting* – that is, they continually assess the language used by others as they 'think aloud' and generate meaning. International students in

particular scout out ways of using language that resonate and appropriate these along with their own concomitant processes and outcomes in their posts. Where in live classrooms students engage in exploratory, thinking aloud forms of talk, this is less likely to happen online as what gets posted in online venues is most often an edited, if not final draft of the poster's thoughts in development.

An intriguing aspect of CMC literacy skills is that, rather than being formally 'taught', online communicative skills emerge organically from naturally evolving social uses and apprenticeships. An interesting case of such informal skills acquisition was recently documented in a study of online teacher professional development. The sharing of links as part of CMC conversations was shown to come naturally to online interlocutors. This sharing became an important affordance in language teacher development in the context under study. Without modeling or prompting, teachers in training used links for very specific professional purposes within their CMC messages that were directly relevant to their Computer Assisted Language Learning (CALL) learning (Hilliker-van Strandler 2007). They frequently (1) shared links to resources for classroom use; (2) provided one another with links to additional information about course topics; (3) included links for pedagogical support sites; and (4) shared links to help one another with technical problems they encountered while creating multimedia files. In this instance, hyperlinks were a key conversational device in the professional development of the teachers in the online course. Such productive forms of online professional development that arise naturalistically are notable and worthy of further attention in teacher education research.

Conclusion

Evidence from studies on online teaching and learning indicate that instructor leadership and student-instructor contact are highly valued by online students as contributing to learning, whereas student-student interaction is found to be the least important characteristic of a successful online language course (Jiang and Ting 2000; Kaliban 2005). Nonetheless, the centrality of the teacher-end of instructional conversations has been mostly overlooked in research in online teaching and learning in favor of examining learners' changing roles and behaviors. In the field of language educator development, we know well that multiple and varied intellectual activities ultimately shape teacher learning, especially when such activity involves engaged, productive conversation that invites exploration and articulation (Freeman 2008). Research continues to indicate that teacher learners are responsive to opportunities to reflect on 'how their thoughts and judgments about what occurs during second language instruction shape their instructional actions' (Johnson 1992, 531).

Guided and systematic observation and analysis of real teaching via online instructional conversations is making visible and immediate the data educators need as models, as subjects of analyses, as practical experience, and as models for extensive professional conversations throughout their careers. That online instructional conversations can provide opportunities for developing teachers to process, reprocess, and query with others in the process of building and refining their professional knowledge base is clear.

With our teacher education courses now populated by digital natives, it is important that when teaching CALL we move beyond general technical guidance in using various computer and internet tools toward more sophisticated conceptual and

practical work in pedagogically meaningful integration of new technologies. Recognition of the affordances of CMC for leading teacher learners to 'value the functionality and appropriateness of different language choices' (Achugar, Schleppegrell, and Oteiza 2007, 11) is an important first step.

Notes on contributor

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