ABSTRACT
Recent innovations in technology allow foreign language learners and their instructors to interact both inside and beyond the classroom using a variety of communicative tools. As a consequence, the classroom has been transformed into an extended learning environment which has had a profound effect on both student and teacher roles. However, the theoretical and pedagogical issues emerging from these new practices have not yet been thoroughly investigated. In an on-going collaborative research project, we seek to gain greater insights into the benefits of specific computer-mediated communication (CMC) activities and to examine the relationship between in-class, online, and out-of-class learning. In this paper, we propose the concept of spiraled interaction—the dynamic interplay of in-class activities that in part focus on meaning and focus on form and online collaborations that have as their primary goal student-constructed representations of knowledge. Our investigation initiates a general framework that combines technology-mediated pedagogy with different learning objectives at various levels of competency.

KEYWORDS
In-class Activities, Out-of-class Activities, Online Activities, Integration of Learning Activities

INTRODUCTION
In this article, we report on an on-going collaborative research project at the University of Pennsylvania which investigates the role of computer-mediated communication (CMC) in the context of peer and classroom learning among beginning and advanced German foreign language learners. The objectives of the study are to gain greater insight into the benefits of specific CMC activities for different learning objectives at various levels of competency and to examine the relationship between classroom learning and autonomous learning through computer-mediated interactions (see Van Deusen-Scholl, Frei, & Dixon, 2004). Though at the
outset of the project, one of the primary goals was to investigate the outcomes of learning among students of German (i.e., a focus on the product), the process itself gradually emerged as a significant factor for understanding the dynamics between online and classroom learning. The project crucially involved a process of reflection, evaluation, and analysis which yielded new questions about the pedagogy of network-based learning in a foreign language context.

We will explore how instructors and students jointly negotiate their relationship as well as the space between the classroom and the virtual learning community by presenting two cases of classroom interactions where teacher and student roles were (re)shaped within an extended, network-enhanced environment. Our first example is taken from a beginning German class, in which the instructor employed a variety of CMC activities, such as online chats, oral Wimba chats and voice boards, and threaded discussions in conjunction with the more traditional in-class communicative activities. By carefully scaffolding a series of online and face-to-face tasks with a focus-on-form emphasis, the instructor enabled the students to gradually build their linguistic and pragmatic competence to successfully accomplish an authentic communicative task (e.g., writing a note of apology). In the second example, we focus on an advanced German class in which the instructor used threaded discussions as a tool for preliminary reflection on required readings, for advanced preparation of class discussions, and for subsequent follow-up discussions of issues and topics raised in class. Such online interactions, as we will discuss below, often result in additional writing practice and increased written output, but, by framing the CMC tasks in a more formal context, the instructor was also able to target the students’ development of academic register and more advanced discourse competencies. We will discuss these two cases in light of recent research in the area of CMC and point out the implications for foreign language pedagogy, focusing on the negotiation of roles between instructor and student, and the negotiation of space between classroom and technology-mediated environments.

CMC AND THE LEARNING ENVIRONMENT

Chapelle (2003, p.11) recently observed a fundamental change in the way that language learning—and indeed learning in general—is occurring at colleges and universities, suggesting that the computer lab as a physical space has been superceded by the Internet as a “host to new spaces in which learners communicate through chat rooms, e-mail, and discussion groups.” Parallel to this change, the role of technology within the foreign language classroom itself has dramatically changed. Earlier approaches to computer-assisted language learning (CALL) or computer-assisted instruction (CAI) relied on the computer lab as a space outside the regular classroom for specific learning tasks to enhance instruction (for discussions on early networked interactions such as Daedalus, see Kern, 1995; and for synchronous chats, see Kelm, 1992). However, recent innovations allow for a more integrated approach to teaching with technology, as new communicative tools provide opportunities for interaction anywhere and at any time, thereby connecting the physical space of the classroom with virtual communicative space.
This development has profound implications for foreign language pedagogy because it enables—and indeed challenges—_instructors to incorporate technology-mediated instruction in their communicative methodology (see Dixon, Frei, & Van Deusen-Scholl, 2004). The foreign language classroom is being transformed into an extended learning environment where student roles are increasingly autonomous and instructor roles are more facilitative and mediating (see Weasenforth, Biesenbach, & Meloni, 2002). Consequently, the context for learning has been broadened from the classroom as the primary focus of instruction to include both the students’ private domain (i.e., their homes or dorm rooms) and the world at large since the Internet allows students different modes of access to the target language and culture (see Chenoweth & Murday, 2003; Hanna & de Nooy, 2003; Thorne, 2003; Belz, 2002; Müller-Hartmann, 2000; Gray & Stockwell, 1998).

In their recent review of the literature, Kern, Ware, and Warschauer (2004) identify two waves of research on online language learning which parallel these technological and pedagogical changes. They note that the first wave “tended to focus on the most quantifiable and easily measured aspects of communication,” while the second pushed for “greater attention to particular practices of use, described and evaluated in terms of their specific social contexts” (p. 243). Within the latter, most recently there has been “a shift in focus from single classrooms to long-distance collaboration” (see also Belz, 2002; Müller-Hartmann, 2000). With respect to the first research focus, several studies have pointed out the benefits of CMC over face-to-face oral exchanges (see Kelm, 1992; Chun, 1998; Kern, 1995; Warschauer, 1996). Ortega (1997, p. 84) identifies three areas of focus: “(a) CACD [computer-assisted classroom discussion] has an equalizing effect on participation; (b) it increases learner productivity in terms of overall amount of language and/or ideas produced; and (c) the language produced in electronic synchronous discussion can be expected to be more complex and formal than in face-to-face discussion, without losing the interactive nature of oral language.” Chun (1998) also found that CMC provided a less stressful environment for oral interaction. Abrams (2003) suggests that “CMC—especially synchronous CMC—may prove to be effective as a preliminary step toward face-to-face communication, as a form of prespeech” (p. 158). The findings by Payne and Whitney (2002) similarly indicate that “L2 oral proficiency can be indirectly developed through chatroom interaction in the target language” (p. 23).

Various studies have evaluated CMC from the perspective of interactionist theories in which negotiation of meaning is seen as an important factor in the language acquisition process. Blake’s (2000) study, for instance, indicated that jigsaw tasks in particular stimulate L2 learners to negotiate meaning and concludes that “these tasks appear to constitute ideal conditions for SLA, with the CMC medium being no exception” (p. 133). Smith (2003) similarly noted an influence of task type on the amount of meaning negotiation. Savignon and Roithmeier (2004) conclude that “… the high level of participation observed offers compelling evidence of the potential of CMC to engage learners in the interpretation, expression, and negotiation of meaning essential for the development of communicative competence” (p. 284).
Recent studies have attempted to situate computer-mediated communication within a larger social context and have focused on exploring the interactional nature of the medium. For example, Kitade (2000) concludes in her study of CMC Internet chat that “CMC not only provides opportunities for interaction in foreign language environments, but also facilitates collaborative and comprehensible interaction …” (p. 163). Lee (2004) notes that “from a sociocultural point of view, language learning cannot be viewed as an immediate product of the individual; rather, it is the process by which learners engage in co-constructing their L2 knowledge” (p. 83). From this perspective, then language learning goes beyond “what” the individual produces (e.g., input and output) and focuses on “how” the individual interacts with others through a joint activity (e.g., collaborative online exchange). The process of negotiation encompasses the inter-relationship between two parties whose actions are influenced by their intentions, goals and learning conditions. (p. 84)

While Lee’s study was primarily focused on a peer learning environment among native and nonnative speakers, a similar process of collaboration and negotiation takes place between instructors and students as well. In communicative language teaching, the model of the teacher-fronted classroom has long been replaced by that of a learner-centered environment. In a technology-enhanced extended classroom, the teacher-student relationship is evolving even further as the lines between teaching and learning are becoming less clear. Warschauer (2001, p. 57) observes that “the Internet does not constitute or prescribe a particular teaching method,” but thoughtfully integrated use of CMC in a communicative classroom may lend itself well to a collaborative model of instruction. The instructor’s role becomes more facilitative and less authoritative (Sengupta, 2001), guiding rather than directing the learning, while the students are more autonomous and take increased responsibility for their learning outside the classroom. Kern et al. (2004) note in their conclusion that “[the] research suggests that language educators should use the Internet not so much to teach the same thing in a different way, but rather to help students enter into a new realm of collaborative inquiry and construction of knowledge, viewing their expanding repertoire of identities and communication strategies as resources in the process” (p. 254). Such a constructivist approach in which acquisition is seen as a dynamic process with learners as active and equal participants has been increasingly accepted in foreign language teaching (see McGroarty, 1998; Collentine, 2000; Weasenforth et al., 2002).

A technology-enhanced learning and teaching environment also presents opportunities for focus on form. Collentine (2000), for instance, investigated construction of grammatical knowledge of indirect speech using a CALL-based consciousness-raising task. Meskill (2005, p. 48) notes that “computer screens can serve to anchor attention to forms and functions in immediate, highly tangible, and communicatively authentic ways” and discusses the notion of computer-supported instructional scaffolding as a tool for language learning. Lamy and Goodfellow (1999) suggest that “asynchronous reflective dialogues have features
including personal exchange involving negotiation of contingent aspects, form focus, and strategy focus, as well as structured opportunities for comprehending meaning and producing modified output” (p.52) Indeed, in our study, student-constructed knowledge posted in asynchronous modes offer a plethora of material for in-class metalinguistic discussion and reflection. Lightbown (1998) calls for more research that discusses when to offer constructive focus on form. In addition, Doughty and Williams (1998) underline the importance of meaningful integration of focus on form throughout a curriculum. Therefore, analyzing the language production in a beginning (second semester) and advanced (sixth semester) language course can shed light on the careful integration of specific online collaborations and their treatment in class. Such investigations can influence and shape curricular design, which, in turn, can include research-based activities and tasks. In a recent article, Levy and Kennedy (2004, p. 53) began to articulate the use of “different technologies for different pedagogical purposes,” pointing out that a “general framework” has yet to be outlined and noticing that most CMC-based CALL literature focuses on posttask activities that intrinsically lead to focus on form. However, in a student-centered technology-enhanced environment in which students regularly construct their knowledge of language, a division between pretask and posttask activity seems arbitrary since the close link between the classroom activities and online collaborations creates a new space in which on-going and renewed involvement with the learning materials occurs. The concept of task cycling (Levy & Kennedy, 2004) begins to describe this dynamic learning environment. Students no longer are asked to move from one isolated—perhaps thematically contextualized—activity to the next. Instead, one in-class activity determines its continuation online, and the online activity determines the following in-class activity. This cycling—or spiraling—builds the foundation for on-going reflection of language production and complexity.

In the next two sections of this paper, we will further explore this process of spiraled interactions and provide examples from two German classes to illustrate how CMC can be used to expand and enhance language production, discourse competency, and student collaboration in and outside the classroom.

BEGINNING GERMAN

In the second-semester Beginning German course, we incorporated CMC into the curriculum as a way to offer students more opportunities for authentic language practice. Focusing on the development of the students’ communicative competence, the instructor used communication tools available in the Blackboard course management system, including a relatively new resource for oral practice called Wimba.

The introduction to and the use of CMC was guided by clearly defined tasks and sequenced through a process of scaffolding, an instructional strategy of presenting new materials and/or introducing new concepts systematically and initially providing students with step-by-step support in the form of direct explanations, targeted questions, and modeling. Instruction during this phase was primarily guided by the teacher, but, as students became familiar with the targeted objectives, the
responsibility for learning was transferred to the students. In this way, scaffolding enabled students to progress gradually from a highly controlled teacher-directed activity to a more open-ended, authentic task involving student-guided learning (see Meskill, 2005; Collentine, 2000).

Students were first introduced to a new topic and the appropriate linguistic forms in a class presentation, offering examples in the target language through a PowerPoint presentation. The instructor then engaged students in constructing their own sentences in a question and answer session followed by a breakout session in which students worked in groups, asking each other questions about the topic and eliciting the use of subordinating word order and reflexive verbs. The transition to an online collaborative activity occurred during the next class meeting in a networked computer lab. For this activity, students engaged in a question and answer session using Blackboard’s chat feature. Each question was posted in advance on a Blackboard chat page and was designed to practice and deepen the knowledge gained during the previous class meeting. All CMC chats were archived for later evaluation. During the chat sessions, students worked at individual computer stations in a networked computer lab, where they could view their responses simultaneously on their individual computer screens and projected onto a large screen located at the front of the room (see Figure 1). Although the instructor did not participate directly in the online responses, he guided the debriefing sessions, asking students to view and read each other’s postings.

Figure 1
Chat Activity

In the following chat activities, students responded to four situation-based questions that demonstrated both their understanding of content and their ability to use linguistic forms associated with the topic of their daily routine and health, specifi-
cally subordinating word order and reflexive verbs (e.g. *sich duschen*, ‘to shower oneself’). Here, the instructor encouraged students to stay on task, sustaining the cooperative group dynamic, and showing students the educational purpose of using the chat as an instructional tool. In addition to facilitating and managing student participation in the chat session, the instructor intervened at the end of each question-and-answer activity. After each student had responded at least once, the instructor stopped the chat and asked the students to focus their attention on the meaning, sentence structure, subject-verb agreement, and so on in their own postings and those of their peers. Since the chat session was projected on a large screen, the instructor was able to point out model sentences. In the course of this guided debriefing activity, students compared their individual responses with those of their peers, thus becoming aware of their own errors and those of others. Through noticing, they then engaged in on-going self- and other correction. In all instances, students did not explicitly receive correct answers but rather implicitly learned from each other. These observations support those referred to in Johnson (2002) that

teachers found that CMC was a very effective tool for raising students’ awareness of their own language use. Since discussions were text-based and easily retrievable, students benefited from increased opportunities to read and notice salient aspects of grammar and different ways of expressing ideas in written form. (p. 73)

In the course of the chat activities, the instructor’s role diminished as the students began to recast their sentences, notice appropriate language usage, and develop increased awareness of form (see also Collentine, 2000).

A sample of one student’s (GD) work indicates the possible influences of CMC activities on oral and written production. Examples (1) and (2) show GD’s response to the question *Was machen Sie, wenn Sie morgens aufstehen?* ‘What do you do when you get up in the morning?’ GD’s postings reflect her on-going process of self-correction.

Example 1

Chat 1; *Was machen Sie, wenn Sie morgens aufstehen?*

[What do you do when you get up in the morning?]


[when in the Morning I to get up-INF, sometimes wash-WORD ORDER/REFL I me-ACC the hair]

…


[when in the morning I to get up-INF, always put on makeup-WORD ORDER/REFL I a little]
Finally, after repeating the same errors three times, GD apologizes in her last response for her mistakes and capitalizes the word mir, thus emphasizing her awareness of the appropriate case of the reflexive pronoun, word order, and subject-verb agreement. In a subsequent chat, GD's word order, use of reflexive pronouns, prepositional phrases, and subject-verb agreement are all impeccable with the exception of a minor typo.

Example 2

Chat 2: Was machen Sie, wenn Sie sich erkälten?
[What do you do when you have a cold?]  
[when I have a cold, I stay in bed]

...  
[when I have a cold, I drink a lot of water]

...  
G.D: Wenn ich mich erkälte, gehe ich nicht zum Arzt.
[when I have a cold, I don’t go to the doctor]

This chat activity produced a learning environment in which students worked collectively and simultaneously on a single task and in which instruction incorporated collaborative learning and peer assessment. Focus on form through online collaboration in the classroom offers students greater opportunities for noticing. In addition, the maximization of student participation—along with the change in the students’ awareness of the target audience from that of the instructor, textbook, and workbook to that of their peers—expands the sphere of learning from private interaction with the teacher to public collaboration with the larger student audience.

The chat activities suggest that implicit, immediate, and negotiated corrective feedback can be as effective or better than explicit negative feedback. Essay correction that employs the traditional learner input-output modification method, in which the teacher indicates errors and the student later corrects them, could well be replaced by a more collective classroom approach, in which feedback is more immediate and discerned by learners. Because the online chat provides a learning milieu that is collaborative in nature rather than private, CMC would seem to better promote the kind of social interaction that occurs when speakers of a language engage in face-to-face conversation. Collentine (2000) similarly notes that “constructing knowledge in a cooperative fashion is beneficial” (p. 53). Furthermore,
since chat can place more responsibility on learners for noticing and error correction, it can be instrumental in changing classroom dynamics and used to foster a climate of learning in the classroom that is learner directed rather than instructor guided.

Immediately after completing the chat activities, students were challenged to communicate meaningfully and beyond linguistic accuracy. Students were given a topical situation, which required the use of forms practiced earlier in class and online in the chats. During the Wimba session, students recorded their responses and could listen to and re-record them before posting them to the voice board. They then listened to each others’ postings and compared them to their own.

In this oral activity, students performed a simulated real-life task that constituted leaving a message on an answering machine and explaining illness as the reason why they were unable to attend class (see the Wimba task in the appendix to this article). This task, in comparison to the previous two, targeted pragmatic and communicative competencies rather than grammatical accuracy. Nevertheless, GD consistently used the appropriate reflexive form in her message which suggests a carry over from the earlier chat (see example 3)

Example 3
Explaining illness as a reason for not coming to class


[Hello Herr Dixon, G. here … uh … I’m not coming to class tonight, because I’m not feeling well. I have … .head … a headache and sniff and I must stay home and rest up … uh … I will take two aspirin and I will sleep a lot … and I will be in class … on Monday. Uh … I want to speak with Brian to find out what the assignment is.]

Finally, students moved from a public online collaborative forum to a formal essay assignment completed in private. This particular sequence culminated in a simulated email to a family member or friend in which students were asked to explain why they were unable to attend a party (see Example 4). As in the case of the chat and voice board, this task was intended as a follow-up discussion to and continuation of the previous three activities. At all stages of the scaffolding sequence, students were becoming aware of their own language production through practice, self-correction, and peer evaluation. Indeed, while not error free, GD’s email assignment reveals an increased awareness of reflexive form, word order, and subject-verb agreement.
Example 4

Explaining illness as a reason for not being able to come to a party

Leibe Schwester,

[Dear sister, I’m sorry, but I can’t come to your party, because I am sick. This morning when I woke up, I had a big headache. Now, I also have the sniffles and a sore throat. I’ve taken two aspirin and throat tablets but I still don’t feel well. I have to stay in bed and rest up. If I don’t feel better on Monday, I’ll call the doctor. I hope that you will have a nice party.]

These activities suggest that a CMC-informed environment may contribute to increased language production, lower anxiety, and focus on accuracy, but, at the same time, the dynamic process of social interaction and collaboration enables students to participate in an extended community of practice. On the side of the instructor, a CMC-enhanced environment transforms the pedagogy by requiring a more flexible approach that is based on student-produced discourse. This then supports Kinginger’s (2001) observation (cited in Lee, 2004, p. 84) that “social interaction is more than the action of one person delivering information to another; rather, it shapes and constructs learning through collaborative effort and scaffolding in expert and novice interaction.”

Instructional scaffolding—or spiraled interaction—in CMC technologies can change the sociocultural environment of the classroom in a number of ways. The instructor acts less as the primary source of information and more as the moderator and organizer of student output. In a CMC environment, learning is not an individual activity, but rather a collective one. Learners experience the development of L2 knowledge by co-constructing it with their peers and not as a socially isolating activity which frequently occurs when students complete audio exercises in a workbook (see Lee, 2004). L2 development through meaningful social interaction can change not only the way students interact with the teacher but also with each other. As classroom dynamics change, the teacher shares responsibility with his or her students as the source of knowledge. The democratization of learning will not make the instructor’s job necessarily easier; rather, it can make it more challenging. The traditional way of teaching in which the instructor presents pre-created knowledge (i.e., grammar sequences, vocabulary lists, and pre-chosen texts prescribed in textbooks) is replaced by a teaching style that challenges the teacher to continuously and systematically encourage students to (a) create the content of the in-class activities, (b) take responsibility for their language production, (c)
become self-reflective about their language production, and (d) spiral in-class activities with online activities and collaborations. This dynamic teaching style demands a flexible, experienced, and well trained pedagogue, whose language proficiency is superior and who can successfully incorporate the student-constructed knowledge into an ever changing technologically enhanced syllabus.

**ADVANCED GERMAN**

Our second case is a sixth-semester German literature-based language course which incorporates weekly threaded discussion activities. Students read texts representative of at least five different literary genres ranging from aphorism to poetry, from drama to novel. Within the threaded discussion forum, students reflected on a specific weekly topic and engaged in an online exchange of ideas. This asynchronous environment, as Sotillo (2000) notes, has certain advantages over synchronous interactions.

Asking students to respond to challenging academic readings encourages them to think critically and post carefully prepared responses to teacher and student queries. Learners are thus able to focus on both form and meaning to a greater extent than when they are engaged in rapid fire exchanges and socializing via synchronous discussions. (p. 107)

Indeed, one of the findings from our study appears to support Sotillo’s claim. When identifying the overall quality of spelling in the threaded discussion activity, students’ reactions were in almost all instances without spelling errors. Weasenforth et al. (2002) also cite recent research on the benefits of asynchronous technologies with respect to students’ awareness of discourse-related aspects of communication, academic conventions, and syntactic flexibility.

Turning our attention to content, students in the Advanced German course posted reactions to particular topics usually following up on themes, observations, and concerns raised during class discussion. Indeed, the online thread stood thematically in direct relation to the in-class discussion. Students were required to post their own opinions (at least one paragraph) and react to at least two postings by their peers. This semester-long assignment counted 20% of the course grade and was assessed primarily by the complexity of interpretation and personal/self-critical engagement of the reflections (see also Weasenforth et al., 2002). Although the instructor did not participate directly in the threaded discussion, she provided feedback on the weekly pieces in class by addressing content and complexity of students’ arguments. At times, she also commented on the syntactic structure and meaning of students’ postings and even created in-class group activities based on their postings. Students received copied threads and had to read, discuss, and synthesize the major points of discussion, formulating the main points of the thread. They then had to write the main points on the board for further discussion in the plenary session. Along with the focus on meaning, the instructor reviewed and practiced conjunctions. These spiraled interactions became the foundation for fur-
ther in-class, out-of-class, and online collaborations.

Parallel to the CMC forum, students also wrote three formal essays (two versions each, no rough draft accepted) that followed clearly articulated revision guidelines focusing on content, style/vocabulary, grammar, and organization. The composition components within the curriculum are well articulated and a focus on practicing revision strategies begins in the basic language sequence. As we have seen in the previous example, scaffolded use of CMC appears to strengthen the development of both oral and written discourse strategies. In short, students are trained early on to notice, to self-correct, and to take responsibility for their language development. This practiced reflection in turn sensitizes students to becoming aware of their knowledge/language construction in the threaded discussion, thereby enhancing their online performance.

We are focusing on two examples, one from the beginning and one from the end of the semester to show how students gradually socialized into an academic register through online interactions which in turn informed classroom discussion. The instructor synthesized the major arguments of the threaded discussion and provided feedback in class regarding both content and linguistic form as well as the development of academic discourse (e.g., how to express an opinion, how to agree or disagree politely, how to frame and formulate an argument, etc.). The two topics selected for the advanced class were introduced with the following prompts (translated in English here).

The purpose of anecdotes: In this week’s reflection, discuss with your peers the purpose of anecdotes and if you tell anecdotes. Describe why or why not.

Gender reversal: A bad exchange? Today, our in-class discussion concluded with innovative and provocative comments. In this week’s forum discuss with your peers the connection between the beginning and end of our text “Blitz aus heiterm Himmel.” In what relation to each other stand these two text passages and what does the ending mean to you?

The postings of the first example were written in a conversational register (e.g., students addressed each other by first name and wrote primarily in the first person). In addition, responses were marked by learned speech act phrases which had been introduced in the fifth-semester course. Most students in the sixth-semester course are minors and majors within the program and had been students of the same instructor in the previous course, thus building on the continuity of the curriculum. As part of the textbook, Der treffende Ausdruck ‘The fitting expression,’ students use different Redemittel ‘expressions’ in each chapter and incorporate them in class discussions. It is noteworthy that students in the online forum—without the instructors prompt—incorporated these previously memorized phrases signifying specific speech acts, as can be seen in Figure 2 (in bold face in the translation):
I agree with you, anecdotes are an informal style of communication. But I am of the opinion that anecdotes have a moral. Because they are based on personal encounters one can take from them what one wants. Anecdotes don’t mean the same thing for everybody. Often they are more important for the person who tells them. But one can disagree with me since my opinions guide my thoughts. It is the same when one hears an anecdote.

After analyzing students’ first postings, the instructor realized that students transferred expressions and structures necessary for academic discourse that had been previously introduced and practiced in class to postings in the discussion forum. This, in turn, encouraged her to incorporate grammar points usually needed to expand written academic discourse (e.g., transition markers and conjunctions) in her classroom discussions.

Indeed, the postings below in response to the second prompt are characterized by syntactic complexity, more academic register, and formal discourse style. What is interesting is that, in a multimodal environment, different language strategies previously reserved to identify spoken or written production, intertwine in online threaded discussion, reflecting language used during in-class discussions and structures used in formal essays. In addition, students incorporated the formal address in their postings. (The instructor consistently addressed all her students with the formal address.) It is noteworthy that in comparison to the earlier postings, students imitated the formal in-class discourse style in their postings at the end of the semester, as the following two postings show:
[I appreciate your (formal) sensitivity to how women feel today :). When people think about heroes they usually think about men. I do not mean all people, but our male society. Perhaps this happens because most leaders in history were male. This could be a coincidence but when one does not have much to choose from, one chooses that which is there and that is men. So, therefore I can identify with your (formal) opinion that women strive to be identical to men. I remember that when I was young my hero was Dr. Elizabeth Blackwell. She was the first certified female physician.]
You (formal) pointed to a very interesting circumstance. Katharina has a strong feeling for freedom—one can understand that. After all, she does not have any opportunities to experience freedom. Her life was like a prison—every day always the same, always alone. She could experience the world only through Albert’s stories. In order to experience freedom, she had to change her gender—what else could she do? To pretend to be a man would have been hypocrisy.

The following posting suggests an increased level of syntactic complexity, incorporating conjunctions (deswegen, obwohl) and complex infinitival constructions (um zu bekommen; nach ... zu streben).

Figure 5
Student Posting in the Online Forum at the End of the Semester (C)

[This story describes something deeper for me than just the difference between men and women. She describes the difference that humanity endured through time. We can call it whatever we want (racism, religious differences, etc.) Therefore, Sarah Kirsch wants to show us in particular how women have suffered under gender differences, although they were (and still are) just as well trained and educated than men. It was so difficult for her that she wanted to change her body in order to receive respect and an honorable status. It seems to her as the only opportunity to strive for her personal goals. It is a universal matter that one can still see these specific differences. It is a shame that humanity today still thinks and acts with the same attitude as 30 years ago.]
Spiraling threaded discussion as an online writing and prediscussion tool, the instructor thus mediated between the students’ online and classroom interactions to increase their use of academic register in both spoken and written discourse.

DISCUSSION

Kramsch, A’Ness, and Lam (2000, p. 99) observed in a recent article that the “use of computers in multimedia environments (including electronic communication) is slowly but surely transforming our conceptions of foreign language learning by changing the very notions of who we are and how we represent ourselves through language.” By extension, foreign language pedagogy is in a process of transformation as well. As we have attempted to show in the two cases outlined above, the use of CMC has enabled instructors to co-construct with the learners a more dynamic environment in which students are increasingly responsible for diverse representations of knowledge and learning.

By extending the classroom boundaries through networked interaction, instructors and students become collaboratively engaged in a process of discussion and reflection. The use of CMC does not simply afford learners access to a rich array of authentic resources and materials, but also engages them in new and more autonomous ways of learning and different modes of communication. Within the online context, learners become part of a community of practice outside the classroom where they may take on social and communicative roles that are quite different from those inside the classroom. Students tend to be more actively engaged in an online setting and share more of the responsibility for their learning, while instructors tend to de-emphasize their authority and allow the students to become partners in the construction of knowledge and learning tasks. In order to create a pedagogically appropriate learning environment both inside and outside the classroom, instructors must, for their part, successfully adapt their roles to these different contexts. In addition, instructors must mediate between a wide range of oral and written, synchronous and asynchronous, online, and face-to-face discourse. The online interactions, in particular, provide new opportunities for instructors to incorporate the students’ authentic output into their teaching by bringing it back into the classroom for discussion and feedback. This, in turn, then becomes the basis for oral and written follow-up discussions both in class and out. In this way, instructors and learners engage in an iterative process of discourse and reflection.

At a beginning level of language learning, this approach allows for a more self-analytical perspective on language production that encourages students early on to notice and self-correct. At the advanced level, the approach allows for more reflective teaching and learning which brings about a deeper understanding of the interrelatedness of content (i.e., critical thinking skills) and form (i.e. academic discourse).

Through CMC, instructors can encourage students to notice and be more aware of their own language production since all communication (both oral and written) can be archived and preserved. Whereas oral language produced in the classroom disappears as soon as it is spoken, discourse produced online remains available
for discussion and reflection. In the two cases outlined above, the instructors employed this function to use students’ own language—and thereby their representation of knowledge—as the basis for grammatical and discourse development, establishing a level of authenticity and ownership of language production on the part of the student that was not previously available. CMC creates the opportunity for instructors to allow authentic student output to become a vehicle for teaching and learning. In other words, how and when an instructor introduces grammatical, cultural, or discourse topics can be targeted directly to the actual discourse needs of the students. The commonly used beginning textbook—whether function oriented or grammar based—is simply not structured to be responsive to individual needs because it must follow a preset sequence of materials that may not match the students’ linguistic output or communicative needs at a given time. Introduction of, for instance, grammatical topics can be accomplished in a more integrated and natural way. In the Beginning German class, for example, the students did not quite master the complex rules of which prepositions require which cases, but they became aware of the rule by noticing their own errors and those of others and by discussing the issue in the classroom. Integrated CMC/classroom activities support a focus-on-form approach that is not derived from an artificial context but rather develops from an authentic context of practice in which language is produced for real purposes of communication. Moreover, it allows students to attempt to resolve their questions among themselves before interventions from the instructor are even necessary.

Also of note is the change from private to more public discourse that appears to evolve in the online environment between teachers and learners. Johnson (2002) points out the difference between the generally private one-on-one communication and the public nature of web-based communication, claiming that “when all discussion is public and structured within clearly defined themes, the group-based nature of that communication can promote and sustain cohesive and supportive behaviors” (p. 71). While this has generally been shown in the literature as one of the primary benefits of CMC, the reverse of this tendency toward increasingly public discourse should also be pointed out. The instructors in our study observed that while the use of CMC tended to promote a more learner-centered environment and stimulated interaction among the students beyond the classroom, they nevertheless also felt a loss of direct and personal contact with individual students. For example, in the Advanced German course, the traditional journal format was replaced largely by threaded discussions, which then no longer allowed the instructor to offer more personal comments on students’ writing. In addition, the sophisticated and in-depth online discussion challenged the instructor to envision and design different topics for classroom discussion. No longer can an instructor check for reading comprehension by simply designing partner or group activities with the goal of collecting salient information about the readings. The sheer volume and detailed threads in the asynchronous environment demand that the classroom discussion can no longer focus on reading comprehension but rather needs to address strategies of formulating sophisticated arguments that address historical, social, political, and aesthetic concepts. In short, the instructor
must be comprehensively prepared for in-class plenary discussions. This is clearly an issue that needs to be considered by instructors in their teaching as well as in teacher training and curricular design. Ideally, in a communicative, network-assisted learning environment, the instructor must find the appropriate balance between learner-centered and teacher-guided learning, computer-mediated and face-to-face communication, and public and private discourse. In technologically enhanced instruction, spiraled interaction—the dynamic interplay of (a) in-class activities that in part focus on meaning, (b) focus on form as an integral part of scaffolded learning sequences, and (c) online collaborations that have as their primary goal student-constructed representations of knowledge—must become more accepted practice so that research findings in turn can substantiate the incorporation of technology-mediated pedagogy into curricula that firmly reflect insights from SLA.

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**APPENDIX A**

Wimba Voiceboard Task (Second-semester German)

The Answering Machine: Begin your message with a greeting. You are leaving a message on the instructor’s answering machine to tell him or her that you can’t come to class tonight because you are not feeling well. Describe your symptoms and explain that you need to stay home and must rest. Explain what you are doing to get better and that you will be in class on Monday. Finally, tell the instructor that you will speak with a student from the class for the homework. In this transcription of her voice board posting, word order is incorrect but she correctly uses the accusative pronoun with the reflexive verb.

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