Learning Electronic Literacy Skills in an Online Language Learning Community

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This paper is about the learning that happens in the synchronous text chat forum of an online group of English Language learners and tutors. It is a socioculturally oriented case study of an informal virtual community called Webheads, who meet online in various places on the internet. Although dedicated to English Language learning, much other learning takes place within the group. The study concerns the learning of certain skills associated with electronic literacy, namely discourse management and technological skills involved in using synchronous text-based computer-mediated communication (SCMC). The paper focuses on the analysis of the concepts of collaboration and scaffolding in learning. Attention is also paid to the analysis of SCMC text, employing the notion of the conversational floor as an appropriate analytical unit for this type of discourse.

Introduction

In recent years the social dimension of language learning has received attention from classroom-based second language acquisition researchers. Likewise, the development of virtual groups of language learners linked through networked computing leads us to consider the social in language learning using computer-mediated communication (CMC-based CALL). But the learning that happens in such groups is not restricted to learning a target language. Much of the learning that happens online is associated with skills needed for successful interaction online: for example, how to participate in online discourse and how to access the technology. These skills can be termed the skills of electronic literacy, and are required in addition to an ability to interpret and

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create visual signs. This paper is a socioculturally oriented case study of how interaction in the synchronous text-based CMC forum of one particular online group can support people in learning the discourse and technological skills of electronic literacy.

The review begins with an account of sociocultural perspectives on CALL, with particular reference to collaboration in learning and to the metaphor of scaffolding. There is also a brief explanation of what is meant by the skills of electronic literacy. Then the online group in question is described: a successful virtual community of language learners and teachers called Webheads. The following section is about analysing synchronous text-based CMC (SCMC). Because SCMC is a relatively new type of discourse it requires the development of correspondingly innovative analytical tools. This section is a short description of the features of SCMC and a summary of the analytical approach to the text of the discourse. It includes a description of the conversational floor, taken in this paper as an appropriate unit of analysis for SCMC text. We then examine in detail the collaborative learning which takes place in two floors of conversation from the logs of Webheads SCMC chats. This analysis relates the floor types to the learning which happens within them. It is intended to give insights into how online collaboration can aid in learning the discourse skills and the technological skills associated with electronic literacy.

The Social Turn in CALL

Sociocultural Perspectives on CALL

Sociocultural analysis, in the words of Wertsch, aims: “to understand how mental functioning is related to cultural, institutional, and historical context” (1998, p. 3). Such analysis views cognitive development as a social, as well as an individual phenomenon, and thus requires any study of learning to take account of the social context (the setting, the participants, etc.) within which learning-related interaction takes place. Regarding the relevance of sociocultural perspectives on CALL, particularly CMC-based CALL, there are two points to make at the outset. Firstly we should recognise that CMC enables long-distance social computing. The social role of the computer is, to quote Kern and Warschauer (2000, p. 13): “To provide alternative contexts for social interaction; to facilitate access to existing discourse communities and the creation of new ones”. This turn to the social echoes other recent movements towards a socially-informed second language acquisition research agenda (for example, Block, 2003; Firth & Wagner, 1998; Lantolf, 1996).

Secondly, learning in online groups or communities dedicated to language learning is by no means restricted to language learning. Many other types of learning occur in virtual environments. The group in question in this paper, Webheads, is ostensibly dedicated to English language learning. There is however little explicit instruction in English: it is a social group, and English is used to
establish social ties and to learn how to use the technology. The Webheads experience accords with the following remark by Warschauer concerning the role of English vis-à-vis computer technology:

Just ten years ago . . . it was very common for those involved in CALL to say that “A computer’s just a tool; it’s not an end in itself but a means for learning English.” . . . Yet earlier this year, an English teacher in Egypt told me this, and this is a real quotation from a real teacher: “English is not an end in itself; it’s just a tool for being able to use computers and get information on the Internet.” (Warschauer, 2001, p. 4)

The turn to the social, and away from a narrowly defined learning purpose, leads us to consider sociocultural perspectives on CMC-based CALL. A view in CMC-based CALL research grounded in social theory has been invoked as the basis for research into collaborative learning.

The notion that interaction in the broader social context is of relevance to learning stems in no small part from Vygotsky’s social theory. Central to Vygotsky’s theory is the view that learning depends to a large extent on socially constituted collaboration between the learner and others. Vygotsky theorised (1962, 1978) that there exists a zone of proximal development (ZPD), which he described as being “…the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86). If this is the case, the implication for language learning is that collaboration, either among learners or between learners and their teacher, is vital for learners’ development. Not only this, stressed Vygotsky, but what children can do with assistance (from more able peers or from teachers) is a better indication of their mental development than what they can do on their own (Vygotsky, 1978, p. 85).

Vygotsky’s social theory, while originally applying to child learning and mental development, has also been explicitly addressed in discussion of second language learning by Lantolf (2000), and Lantolf and Appel (1994). Warschauer (1997) provides a review of computer-mediated collaborative language learning from a sociocultural perspective. Among studies of SCMC-based CALL, a number refer specifically to Vygotsky’s ZPD when discussing language learning (Kitade, 2000; Renié & Chanier, 1995; Zähner, Fauverge, & Wong, 2000). However, SCMC as a type of discourse presents particular challenges to participants which are not necessarily linguistic in nature. To communicate effectively online in the first place one needs to manage the discourse and to handle the technology. Later sections of this paper are concerned with these other kinds of learning through shared activity which take place in an online language learning community.

Scaffolding

Within sociocultural theory the metaphor of scaffolding is used as an illustration of the way in which linguistically mediated assistance occurs in the ZPD. Scaffolding has been adopted by SLA researchers working within a sociocultural tradition. With
Donato (1994, p. 40) describes scaffolding: “... in social interaction a knowledgeable participant can create, by means of speech, supportive conditions in which the novice can participate in, and extend, current knowledge and skills to higher levels of competence”. Aljaafreh and Lantolf (1994, p. 469) summarise: “The idea is to offer just enough assistance to encourage and guide the learner to participate in the activity and to assume increased responsibility for arriving at the appropriate performance”. Yet the definition of *just enough assistance* is dependent on the subjective judgement of individual teachers. Wood, Bruner, and Ross (1976) are more specific in their proposal of six functions of scaffolded help in educational psychology more generally:

1. recruiting interest in the task
2. simplifying the task
3. maintaining pursuit of the goal
4. marking critical features and discrepancies between what has been produced and the ideal solution
5. controlling frustration during problem solving
6. demonstrating an idealised version of the act to be performed.

In sum, collaboration with reference to the metaphor of scaffolding uses as a central image the notion that learners are at a certain place in development and can be drawn into another more developed space through scaffolded help from others. Moreover, sociocultural theory takes a broad view of human development, and can apply to any new knowledge, not only knowledge of a new language. Sociocultural theory thus allows us to view language learning as just one part of a learner’s development. In the case of the virtual group in question here, the concern may equally be how scaffolding aids in the development of the skills of electronic literacy, which constitute part of an individual’s electronic communicative competence (Chapelle, 2001). What is more, looking broadly at learning such skills within an informal community allows us to recognise that the roles of the participants may be flexible: An English language tutor may adopt a learning role when faced with a novel tool of electronic literacy, and an English language learner may take on the role of the “more experienced other” when the learning turns to electronic literacy skills.

**Electronic Literacy and Electronic Literacies**

In parallel with recent reassessments of literacy and a consideration of multiple literacies, there has been a corresponding amount of discussion of electronic literacy and literacies. The ability to read and write does not exist in a vacuum but has social and cultural elements, as recognised by theorists working in within the social-anthropological tradition of literacy studies (for example Barton, 1994; Baynham, 1995; Street, 1993, 1995). There are different types of literacy activities, or literacy practices, different ways of using texts in different social contexts or situated interactions (Cook-Gumperz, 1986; Heath, 1983), in turn giving rise to particular
literacy events (Barton, 1994). This ideological approach to literacy, says Street, subsumes the basic skills traditionally associated with literacy: “[i]t does not attempt to deny technical skill or the cognitive aspects of reading or writing” (1995, p. 161). Likewise, in online communication, it has become current to talk of multiple literacies, for example: electronic literacies (Warschauer, 1999); global literacies (Hawisher & Selfe, 2000); and changing literacy communities (Murray, 2000). Such views of electronic literacy practices need not ignore the technical aspects which are the basis of electronic literacies. These include reading and writing, as in more traditional forms of literacy, and also new sets of skills such as those described later in this paper: skills associated with online discourse management and knowledge about the technologies of electronic literacy. When such skills are learned, they enable groups of individuals to develop a repertoire of literacy practices, performed in context and for a purpose. It is to the context of the group, the online community called Webheads, we turn next.

**Webheads**

*A Community of Practice Online*

The Webheads community of English language learners, teachers and others has been meeting on the Internet since 1998. Many of the learners participating in Webheads are also simultaneously enrolled in classroom-based language courses. Webheads for them has provided an opportunity for communication with other learners and more expert users of the language. Figure 1 shows the Webheads homepage.

What happens with Webheads bears little resemblance to traditional teaching, or even to more established forms of distance learning. As the group’s founder

![Webheads homepage](image)

**Figure 1.** The Webheads homepage
Vance Stevens (2001) says, Webheads has the ability to “do an end run around the teacher and put students in touch with other target language speakers in authentically communicative situations”. The dissimilarity of Webheads to a traditional classroom teaching situation is further stressed when we are reminded that Webheads meets online, and thus issues surrounding control of the discourse are raised. Stevens sums up his view of the dynamics of Webheads thus:

Conducting online classes, or trying to monitor chats to which we invited all comers, or moderating lists or bulletin boards, is another endeavor not unlike herding cats. Not impossible to control, but perhaps undesirable to control. Undesirable because such projects tend to take on lives of their own. The organic nature of online interactions is a great asset, and in my Webheads project, I’ve just set wheels in motion and greased and nurtured them with a bit of HTML and email, and then I sit back and enjoy the serendipitous outcomes.

What started as a small-scale online writing course has evolved into a broader, looser conglomeration of learners, tutors, researchers, and others meeting in a variety of spaces on the Internet. In 2002 an associated group arose, a thriving community of language teachers called Webheads in Action.

Concentrating on data from a single online group has a number of advantages. Firstly, we can emphasise that technology has a social dimension. The computer-mediated discourse of the community is shaped by both the technology and the social context within which it operates. Prioritising the social at times avoids a restriction to deterministic accounts of CMC whereby linguistic and discourse features are directly attributed to an autonomous technology.

Secondly, we can avoid viewing features of the discourse as solely textual. Microanalysis of conversation, including the written conversation described later in this paper, runs the risk of treating the text as independent of the circumstances of its production. This tendency of micro-analysis can be tempered by grounding it in an account of the social context of the community. As Hymes notes, for an adequate approach to language:

one cannot take linguistic form, a given code, or even speech itself, as a limiting frame of reference. One must take as context a community, or network of persons, investigating its communicative activities as a whole, so that any use of channel and code takes its place as part of the resources upon which the members draw. (Hymes, 1974, p. 4)

But what sort of community is Webheads? Overlapping with the notions of speech community (Hymes, 1974; Saville-Troike, 1989) and discourse community (Swales, 1990), though also including learning within its definition, is the community of practice. A community of practice is a community dedicated to learning and advancing knowledge and know-how in a given subject area among its members (Lave & Wenger, 1991; Wenger, 1998). Communities of practice, suggests Wenger (1998), are everywhere, and individuals belong to a number of communities of practice, including virtual ones: “Across a worldwide web of computers, people congregate in virtual spaces and develop shared ways of pursuing their common
interests” (1998, pp. 6 – 7). Wenger’s definition of a community of practice is based on individuals’ joint pursuit of all kinds of activity, resulting in interaction, mutual engagement and, in his terms, learning:

Over time, this collective learning results in practices that reflect both the pursuit of our enterprises and the attendant social relations. These practices are thus the property of a kind of community created over time by the sustained pursuit of a shared enterprise. It makes sense, therefore, to call these kinds of communities communities of practice. (Wenger, 1998, p. 7)

Practice is seen as the source of coherence of a community. The dimensions of practice, for Wenger, are mutual engagement, a joint enterprise, and a shared repertoire of ways of doing things (1998, p. 49).

Consideration of Webheads as a community of practice, with a shared repertoire of discourse and literacy practices, and where learning of some sort (the joint enterprise) is involved, would seem to be reasonable. The learning going on in the Webheads community may be of many kinds: language learning; learning about the technologies of CMC; and learning about the specific linguistic and discourse practices of the community.

**MOO and Graphical Chat**

Webheads members meet for SCMC chats in a variety of places on the Internet. The sessions from which data in this paper derive were held weekly from 1998 to 2001 as Webheads members—tutors and students—gathered for informal text-based chats on a wide range of topics. These early meetings were held at a graphical chat room, The Palace. The Webheads group migrated from there to a MOO (a multi-user domain, object-oriented) with a less recreational, more learning-focused ethos, Tapped In, in mid-2001, and have been resident at Tapped In since. Language learning in MOOs has been the subject of research in recent years by Schwienhorst (2002, 2004), Weininger and Shield (2003), Peterson (2001) and Kötter (2001). The data from this paper, however, is not from a MOO but from the early Webheads chat at The Palace.

The Palace (Figure 2) describes itself on its homepage as a “graphical avatar chat” and makes strong use of the graphical element of CMC by allowing for the creation of movable avatars, or pictorial representations of participants. The term avatar is borrowed from Hinduism: Vishnu is said to appear on earth in one of ten incarnations, or avatars.

The chat log provides a more stable record of the interaction than the speech bubbles, which disappear after a short time on the screen. The text-based interaction is one way (Cherny, 1999, p. 154; Herring, 1999) in that turns cannot be seen by other participants until after they are sent. Despite taking place in a graphical chat room, the interaction is similar to most other synchronous and text-based CMC. Notable features of this discourse type, and an analytical approach for SCMC discourse, are outlined in the next section.
Method: Analysing synchronous text-based CMC (SCMC)

This section first summarises the distinctive features of SCMC, the discourse type under discussion. Then the approach taken in the subsequent analysis of the SCMC interaction is described. This approach, deriving from research into multi-party spoken conversation, takes the conversational floor as an appropriate unit of interactional organisation in SCMC.

Synchronous Text-based CMC

The distinctive characteristics of SCMC can be summarised thus:

- SCMC is text-based human-human communication via computers
- SCMC discourse happens in real time, that is, synchronously
- turns in most SCMC cannot be seen by other participants until they have been sent
- participants can scroll back and forth to re-read previously sent stretches of discourse text.

The sense that SCMC is in some way a hybrid of speech and writing, or that it bridges a divide between the two, has driven much research into this type of interaction. In particular the real-time nature of SCMC prompts participants to consider it as similar to spoken casual conversation, a view reflected in much early commentary on

Figure 2. The Palace interface
the discourse type (e.g., Chun, 1994; Werry, 1996). More recently, rather than thinking of SCMC as more or less written- or spoken-like, work by Shield and Weininger analyses SCMC discourse (in their case MOO discourse) in terms of where it lies on a continuum ranging from the language of proximity to the language of distance (e.g., Weininger & Shield, 2003). This view echoes that of Kress (1998), who comments on the general informality of CMC. He argues that “informality of language in general and of speech in particular is a factor of social proximity” (1998, p. 54). When participating in CMC, “in the temporal (if not spatial) co-presence of one’s interlocutors [one is put] ... in a situation somewhat typical to that of the use of speech” (p. 54). Kress is in fact discussing communication via email, though his comments hold as well for SCMC. He concludes, “It is this remaking of the social situation which then reshapes language in the direction of speech-like form” (p. 54). Yet SCMC differs from spoken conversation in crucial ways, which must be taken account of in its analysis.

A Tool for Analysing SCMC Discourse Text: Conversational floors

Because SCMC is a novel form of discourse which resembles spoken conversation, it is tempting to borrow analytical tools and frameworks from spoken conversation analysis in the analysis of SCMC. Yet one area where SCMC and spoken conversation can differ greatly is in patterns of turn-taking, which underpin spoken conversation (Sacks, Schegloff, & Jefferson, 1974). Turns in SCMC can appear out of place, rendering the discourse uncohesive in comparison to spoken discourse. This lack of interactional cohesion has led to an alternative treatment of cohesion in SCMC discourse: that of the conversational floor. The study of the conversational floor in SCMC owes a debt to research into spoken conversation by Edelsky (1981) and Shultz, Florio, and Erikson (1982).

Definition of the floor is not clear-cut, and depends in part upon inferring how participants themselves viewed the unfolding discourse. Edelsky’s early work on floors in spoken discourse provides a first definition of the floor:

> The floor is defined as the acknowledged what’s-going-on within a psychological time/space. What’s going on can be the development of a topic or a function (teasing, soliciting a response, etc.) or an interaction of the two. It can be developed or controlled by one person at a time or by several simultaneously or in quick succession. It is official or acknowledged in that, if questioned, participants could describe what’s going on as “he’s talking about grades” or “she’s making a suggestion” or “we’re all answering her.” (Edelsky, 1981, p. 405)

It is questionable that participants in discourse would actually describe “what’s going on” in terms such as those suggested. Nevertheless, Edelsky’s discussion of floor usefully draws in key contextual elements. “Simply talking, in itself, does not constitute having the floor”, say Shultz et al. (1982, p. 95). “The ‘floor’ is interactionally produced, in that speakers and hearers must work together at maintaining it”. Thus one can be the speaker but not hold the floor.
To summarise Edelsky and Shultz et al., the floor is a conflation of three definable elements: (1) the topic, the aboutness of the discourse; (2) the verbal activity, that is, how things are being said in the discourse (for example, chatting, explaining); and (3) the participants’ sense of what is happening in the conversation. This third element is dependent wholly upon inference, which makes floor—a like topic—a slippery feature to identify. The three-component structure of floor is adopted and adapted in this paper. In the later analysis in this paper, rather than inferring the participants’ sense of the conversation, we simply list the participants and provide contextual information about their role relationships.

Edelsky (1981) and Shultz et al. (1982) propose somewhat different classifications of floor types in spoken discourse, both of which have been adopted by CMC researchers. Edelsky (1981) categorised two types of floor: a singly developed floor (F1) and one which is a “collaborative venture” (F2). F1’s are: “characterised by monologues, single-party control and hierarchical interaction where turn takers stand out from non-turn takers and floors are won or lost . . .” (Edelsky, 1981, p. 416). F2’s are: “inherently more informal, cooperative ventures . . .” (p. 416). Herring (Forthcoming) found that these two floor types were evident in her study of gender patterns in asynchronous CMC discourse on two discussion boards. In multi-party SCMC, two or more floors of conversation may continue in parallel. A broader classification deriving from research into dinner table conversation and classroom discourse by Shultz et al. (1982) posits categories of participation structure where floors are single or multiple. Though there are further sub-divisions in this classification, single floors are broadly speaking correspondent with Edelsky’s F1 and F2: a single speaker, with a number of attenders; or a floor which is more collective or collaborative. Multiple floors, type IV participation structure in the typology of Shultz et al., are described by these authors (1982, p. 102) as having: “subgroups of the persons present participating in topically distinct simultaneous conversations”. This description could equally apply to much SCMC discourse. Thus Cherny in her groundbreaking (1999) study adopted the notion of conversational floor and an adapted version of the Shultz et al. typology to describe floor types in discourse in a MOO. A separate study (Simpson, 2005) develops the notion of conversational floors as discourse structures in SCMC more fully.

In the analysis of SCMC in the following section, the extracts of discourse text are described as types of floor, loose and potentially extended interactional units appropriate to the description of SCMC discourse, with more or less definable boundaries. We can then label and discuss each extract as a whole in terms of participants (who is communicating), verbal activity (how something is being communicated), and topic (what is being communicated). In addition we draw in contextual details such as the relationships between the participants in the discourse, crucial to a sociocultural account of learning. Identification of the floor in these terms enables us to consider the floors which develop in the discourse (which are at least partially structural features) in relation to collaboration in learning.
Analysis and Discussion

Two Types of Knowledge

Instances resembling conventional aspects of language teaching and learning occur in the Webheads SCMC sessions, though not with great frequency. As explained earlier, the community gives participants who are language learners the opportunity to practice using English in informal online social settings. Yet much teaching and learning in other areas does occur. In this section we investigate how collaboration in the teaching and learning of the skills of electronic literacy are evident in the text of Webheads SCMC discourse. As noted previously, the phrase skills of electronic literacy can be used as a convenient shorthand term for a number of types of functional knowledge. In this paper we focus on two associated types of knowledge relevant to successful interaction within the Webheads community: knowledge of discourse management, and knowledge of the technology.

The management of the discourse of SCMC requires a broad range of sub-skills. In the next section, we examine a stretch of discourse text where a novice participant is learning through shared activity how to take part successfully in SCMC interaction by opening a log of the text chat. This is, of course, a demonstration of a very small aspect of how the discourse of SCMC is managed by participants. In the same example we see an instance of a collaborative conversational floor which is part of a multiple floor. For all participants, regardless of their level of competence in the language of the community, managing these multiple floors and perhaps contributing to different floors in parallel, requires new skills.

A knowledge of the technology encompasses both access to the technology (the computer hardware and an Internet connection) and also a technical capacity enabling a participant to download particular software, to log on to the system, and to join an online group, amongst other things. The ability to participate in SCMC of any kind requires gaining access to the relevant technology. We see in a later example how the boundary between discourse and technological knowledge is not necessarily clearly defined, as we discuss an instance where a Webheads member is being taught how to navigate around the online environment in a single floor with just two participants.

Collaboration in Discourse Management

The following stretch of discourse text, extract 1, shows how individuals are taught how to use the log of chat in this virtual environment. Employing the notion of floor described above, we can isolate the relevant discourse text for analytical purposes. First we outline certain features of context. This is a multi-party conversation in the graphical chat room The Palace between Ying-Lan, Brazil (learners with Webheads), Vance, Maggi (tutors with Webheads), and dodo (a visitor and new Webheads learner), early in the history of Webheads SCMC meetings. Ying-Lan and Brazil are regular and established participants with Webheads. Vance is the founder of the group, and
Maggi (nickname MAD) is a founder tutor. The four participants have had many chats online with each other using SCMC. The extract shows a multiple conversational floor comprising two floors: a main floor (turns 1–4, 6, 11–13, 15, and 17) and a side floor (turns 5, 7–10, 14, and 16).

Extract 1

1 Ying-Lan: ^Put "^" before your sentence. It will keep your balloon for a long time.
2 Vance: ^True, but most of us are using the chat log. Do you know how to do that?
3 dodo: ^thanks
4 dodo: no, would you tell me?
5 MAD: @64,64! It’s MAD
6 Vance: Options/Log Window
7 MAD: Hi... who is dodo?
8 Vance: Dodo is from China, Guangdong.
9 Vance: He’s a new student.
10 dodo: hi, mad
11 Vance: Dodo, do you have a log window on now?
12 Ying-Lan: ^Open/Option/ and mark toolbox, you can see the tool box window at your left hand. Click the log you will see our conversation record.
13 Ying-Lan: left hand
14 Ying-Lan: hi, mad
15 Brazil: But where do I save the log??
16 MAD: Michael is late!
17 Vance: I usually just copy it to the buffer and paste it to a word document

We recall that the floor has three elements: participants, verbal activity, and topic. Thus the side floor can be labelled: Vance and Ying-Lan greeting Maggi and introducing dodo. Our concern is with the collaborative floor which remains. This can also be named according to the three components of floor. Thus we can label it: Ying-Lan and Vance explaining to dodo and Brazil how to use features of chat in The Palace.

We turn now to the collaboration in learning that takes place in this collaborative floor. Although the label given to the floor captures the broad picture, it comprises three distinct phases. Ying-Lan begins by explaining to dodo how to make the turn in the speech bubble remain on the screen for longer than normal (turns 1 and 3):

Extract 1a

1 Ying-Lan: ^Put "^" before your sentence, It will keep your balloon for a long time.
3 dodo: ^thanks
The central collaborative activity is carried out in the middle turns when Ying-Lan and Vance explain to dodo how to read the chat log:

Extract 1b

2 Vance: True, but most of us are using the chat log. Do you know how to do that?
4 dodo: no, would you tell me?
6 Vance: Options/Log Window
11 Vance: Dodo, do you have a log window on now?
12 Ying-Lan: Open/Option/and mark toolbox, you can see the tool box window at your left hand. Click the log you will see our conversation record.
13 Ying-Lan: left hand

One point to note concerning extracts 1a and 1b is that though she is a learner with Webheads, Ying-Lan adopts a tutoring role when the topic relates to discourse management. She is an experienced user of SCMC, although her level of English is not high.

Finally, Brazil initiates a two-part exchange with Vance, which completes the collaborative floor under discussion here.

Extract 1c

15 Brazil: But where do I save the log ??
17 Vance: I usually just copy it to the buffer and paste it to a word document

In terms of sociocultural change, this extract illustrates how mental activity is mediated through interaction with others on the level of microgenesis: “changes occurring in mental functioning over the span of weeks, days, hours, or even seconds” (Block, 2003, p. 100). The mediational devices involved are both physical and symbolic: physical insofar as objects can be physical in a virtual world (the log window, the toolbox); and symbolic in that language, a symbolic system, is a prime mediator. The example also supports a contention that SCMC is an appropriate medium for collaboration in learning in general. The conversation in SCMC above is essentially about SCMC discourse. Self-reflective metalinguistic interaction of this kind is suited to SCMC for three reasons. Firstly, the discourse type provides a textual record of the interaction. The chat log is described in extract 1; as mentioned previously, language learners and novices in SCMC discourse can use the log to scroll back and re-read previously posted turns. Also, interaction, though synchronous, tends not to occur as quickly as spoken conversation. When the number of current participants is low, learners are able to follow the text more carefully than they would be able to with spoken discourse. Both the use of the log and the technique of extending the view of the speech balloon which Ying-Lan refers to in turn 1 enable a slowing-down of discourse speed. What is more, because interaction can occur in
different frames on the screen, participants can multitask, that is, perform more than one activity at a time. Thus Vance and Ying-Lan can explain to dodo and Brazil how to carry out an operation at the same time as they do so. We also see this form of multitasking below.

Scaffolding and Technological Knowledge

The previous example demonstrated how discourse skills may be taught in SCMC interaction. However, discussion in the chat also extended to the technological: participants have to know how to open a chat text log before they can use it as a space for conversation. In the next example, extract 2, the skill being taught relates to technological knowledge and also, indirectly, to discourse knowledge.

This two-party conversation in the graphical MOO The Palace is between Vance (founder-tutor with Webheads) and Ying-Lan (a learner with Webheads).

Extract 2

1 Ying-Lan: ^I don’t understand what you were talking about the room of the campus by email.
2 Vance: OK, press ctrl-G
3 Ying-Lan: ^Am I late?
4 Vance: No, right on time
5 Vance: Do you have a room list?
6 Ying-Lan: ^Ctrl + G like “Find user” of the the Option.
7 Vance: Ctrl G is “go to a room” under options
8 Ying-Lan: Where do we go?
9 Vance: But if you select it, or type ctrl-G, you will see a room list
10 Vance: Do you see it?
11 Ying-Lan: ^Yes, I did.
12 Vance: Can you find dorm room #2?
13 Ying-Lan: Yes I do
14 Vance: Let’s not go there yet ... but ...
15 Ying-Lan: ^You mena Dorm Room2?
16 Vance: If we need a quiet place we can go there
17 Vance: Yes, Dorm Room 2
18 Vance: When I was here last time, I met a wizard who showed me that place.
19 Ying-Lan: Now, or later?
20 Vance: later

It is a single conversational floor, in that only one conversation is carrying on at a time. In terms of its three-part composition (participants, verbal activity, topic), we can label the floor: Vance explaining to Ying-Lan how to navigate to different rooms in the graphical chat room. Note that the verbal interaction was taking place in one
area of the screen while the other actions were being carried out simultaneously elsewhere in the site.

We turn to the teaching and learning taking place. Of interest is the way in which Vance at certain points ensures Ying-Lan is following the instructions he gives. At certain points the participant with the tutoring role (Vance) asks the learner (Ying-Lan) questions to ensure she is attending to the correct part of the navigation. In these turns, he makes sure she can see the room list to which he is referring:

*Extract 2a*

5  Vance: Do you have a room list?
10  Vance: Do you see it?
11  Ying-Lan: Yes, I did.

Having received this ratification, but not before, Vance then asks Ying-Lan if she can find dorm room 2:

*Extract 2b*

12  Vance: Can you find dorm room #2?
13  Ying-Lan: Yes I do.

This process whereby a learner is assisted through a learning situation by a more knowledgeable other resembles that in the account of learning which makes use of the metaphor *scaffolding* (Aljaafreh & Lantolf, 1994; Wood et al., 1976), which we discussed previously. Certain, though not all, criterial features of scaffolding as listed by Wood et al. are evident here: recruiting interest in the task (turn 1); simplifying the task (turns 8 – 9); highlighting the relevant features (turn 16). Ying-Lan is the novice in this extract, and her appropriation of new knowledge is being co-constructed through shared activity with Vance. A further point can be made which supports the relevance of this aspect of sociocultural theory to CALL in this context: the process was instigated by the learner, as it was she who focused initially on the issue of navigating in the chat room.

These points correspond to a large extent with Vygotsky’s (1978) view that learning occurs as a result of support from a more knowledgeable other, and that such learning will only occur when it is appropriate to a learner’s current and potential level of development (i.e., the learner is within the ZPD).

**Conclusion**

To conclude, we draw together three issues emerging from the paper.

The first point to make is that a consideration of individual learning (cognitive or mental development) is incomplete without incorporating a discussion of the
social context of such learning. This view resonates with the sociocultural approach to the discourse data adopted in this paper. In such an approach, mental development is seen as mediated by the outside: by the physical tools of the environmental context and by the language in use. And with more particular reference to the metaphor of scaffolding, interaction in the virtual community described here demonstrates the process of other-regulation and outside support through the knowledgeable others’ manipulation of the technological tools and their use of language itself.

The second issue relates to literacy development online. Through focusing on the teaching of discourse and technological skills in this paper, we draw to attention that skills of this type are fundamental to effective interaction in a virtual environment. The aim is not simply to stress the truism that people learn things other than language when participating in a language learning community. Rather, that for literacy to develop (in the shape of established literacy practices within a community of practice), other functional skills are involved in addition to those of reading and writing as traditionally conceived. An examination of the relationship between discourse and technology is not new in literacy studies. Yet with established chirographic and typographic literacy the technology has been interiorised, to use Ong’s (1982) term, to the extent where the interplay of the participant and the technology is unremarkable. Conversely, an examination of electronic literacy at a relatively early stage in its development can highlight instances where participants struggle to master the technology: a prerequisite for effective participation in the discourse.

The final issue surrounds the employment of an innovative analytical tool, the discourse unit of the conversational floor, in the analysis of a relatively novel form of discourse, SCMC. A number of remarks can be made regarding the conversational floor. Here it is used as a more-or-less definable unit, providing a basis for the separation of sections of discourse text from co-text for the purposes of analysis. In an SCMC context, this technique draws on, and extends, the work primarily of Cherny (1999). Additional work in this area might investigate further the type of interaction which takes place in particular types of floors, and in other SCMC contexts. Broader investigation of other online communities and groups of language learners employing SCMC may suggest generalisations which are not supportable in this paper.

Notes on contributor

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