

Constituting Conventions of Practice: An Analysis of Academic Literacy and Computer Mediated Communication

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ABSTRACT: In this article we examine the use of computer mediated communication (CMC) with respect to the academic practices of students and instructors in university settings. Two questions framed this study: How are the literacy practices traditionally associated with academic work changing in light of new communicative technologies? And secondly, How do people learn to engage in these practices, particularly when the practice is new or developing and does not have clear rules or standards? An analysis of the relationship between language, technology and academic practice provides a key to responding to these questions. We examine this relationship in an academic context where a web based hypertext program was used as part of a doctoral seminar program. Based on our analysis we argue that an understanding of the language and literacy associated with CMC is essential if we are to learn how to engage thoughtfully and critically in this form of communicative practice. Further, we need to consider the educational value of new forms of reading and writing in a university setting, to take responsibility for making explicit the conventions and norms of these practices, and to make judgments about the pedagogical and social values associated with this technology.

RÉSUMÉ: Nous analysons dans ce papier l'utilisation de l'ordinateur comme moyen de communication (OMC) en tenant compte des usages académiques des étudiants et des enseignants dans le cadre universitaire. Deux questions viennent articuler cette étude: Comment des usages littéraires généralement associés au travail académique peuvent changer à la lumière de nouvelles technologies de communication? Comment les gens apprennent à

se motiver avec ces pratiques, spécialement quand ils sont nouveaux ou au stade expérimental et n'ont pas encore de règles distinctes ou générales? Une analyse du lien entre le langage, la technologie et l'usage académique apporte une clé pour répondre à ces questions. Nous examinons ce lien dans un contexte académique où une donnée d'hypertexte d'un site a été utilisée en partie pour un programme lors d'un séminaire de doctorat. Basé sur notre analyse, nous soutenons que la compréhension du langage et de la littérature associés à O MC, est primordiale pour une implication sérieuse et critique dans cet usage de la communication. De surcroît, nous devons prêter une attention toute particulière à la valeur éducative de ces nouvelles formes de lecture et d'écriture dans le contexte universitaire, expliquer clairement les règles et normes de ces usages et apporter des jugements sur les valeurs pédagogiques et sociales liées à cette technologie.

Introduction

Web-based forms of communication are now routine parts of the day-to-day work of students and instructors in academic settings (Collis & van der Wende, 2002). Academic list serves, email interaction, web-based course delivery tools, electronic journals, and discussion boards provide forums through which academic discussion and pedagogical interaction take place. The use of these forms of computer mediated communication (CMC) has changed and continues to change many of the research and pedagogical practices in higher education, for example, the mediums through which ideas are published and critiqued; the interactions between students and instructors; the writing and presentation of assignments. While there has been considerable discussion over an appropriate definition of CMC, we think that the most recent formulation (December, 2003), which focuses on the processes and the contexts involved in CMC, best characterizes the way that we are using this construct in our study:

I believe that *process* and *context* are key themes in the study of computer-mediated communication. Computer-Mediated Communication (CMC) is the process by which people create, exchange, and perceive information using networked telecommunications systems (or non-networked computers) that facilitate encoding, transmitting, and decoding messages. Studies of CMC can view this process from a variety of interdisciplinary theoretical perspectives by focusing on some combination of people, technology, processes, or effects. (December, 2003, n.p.)

The particular context of concern to us is the post-graduate level (a doctoral seminar in teacher education) and the theoretical frame that we are using to examine some of the potential processes and effects of using CMC is that of academic literacy. We wish to argue that the use of some of these new forms of technology can create and enable different manifestations and forms of academic literacy. In other words, the technology makes possible new ways of reading and writing academic texts; new ways of creating, communicating, and representing ideas and knowledge. In this paper we examine the use of a web-based discussion forum in a doctoral seminar to consider its relationship to the practices traditionally associated with graduate work, face-to-face discussions, and term papers. The first part of the paper outlines a conceptual framework for considering the relationship between communication technology, literacy, and academic practice. The second part of the paper considers how this relationship was played out in the context of a doctoral seminar. In so doing we consider how the writing practices that developed through this on-line interaction connect with other forms of scholarly writing and pedagogical practice. We argue that an understanding of the language and literacy associated with CMC is essential if we, as educators, are to learn how to engage critically in this form of communicative practice, and to begin to take some responsibility for shaping, as Kress (1998) urges, the standards, conventions, and potential associated with new forms of communication technology.

Technology, Literacy, and Academic Practice

There are many who argue that the use, as well as the promise, of computer mediated forms of communication have far-reaching consequences for academic practices¹, particularly for ways in which knowledge is constructed, communicated, represented, used, learned, and critiqued as part of the processes of research and pedagogy (Burbules & Callister, 2000; Harasim, 1995; Renninger & Shumar, 2002; Willinsky, 1999). Such views are very broadly predicated on the assumption that the technologies available for communication are an integral part of the ways in which knowledge is constructed, learned, or disseminated in pedagogical and research contexts. This assumption is also consistent with particular theories of linguistics that contend that the mode of communication, be it spoken or written, plays a central part in the ways in which ideas are represented and meanings created (Halliday & Hasan, 1989). Bruce (1997) further specifies the above point by arguing that the particular tools available for written communication,

for example, pens, computers, books, the internet, differentially affect the construction of texts, the processes of reading, and therefore the making of meaning.

With reference to much of the web-based or hypertextual forms of communication, Burbules and Callister (1996) suggest that the strategies used to read and write these texts are different from those used to engage with traditional print based texts. Hypertext does not have the same degree of linearity and structure as a traditional print based text. Because of this Burbules and Callister suggest that a new relationship between authors and readers is made possible, in the main, because the distinction between reader and author is less clear:

On the one hand, the author's capacity to impose unilaterally a necessary structure and sequence on a text is undermined as the network of links becomes more and more complex; conversely the process of reading involves the active making of linkages between nodes of text in the same way that 'authoring' does. The relation of author and reader is made reciprocal: the 'accessing' of textual information influences its production and not only vice versa. (p. 34)

Burbules and Callister take this argument into the realm of epistemology by suggesting that the nature of hypertext and the ways in which it is written and read have consequences for the representation of knowledge:

As the organizing system of a hypertext grows and evolves, the structure of the information itself changes ... because knowing depends upon the meaningful organization of information, new methods of organization imply changing forms of knowledge ... hypertext challenges traditional distinctions between *accessing* and *producing* knowledge. (Burbules & Callister, 1996, p. 25)

While the above claims are primarily conceptual and beyond the scope of any empirical work presented in this paper, they do nevertheless provide an important backdrop to thinking about the structure and use of the internet and, more specifically web-based forums, in higher education contexts and what this might mean for literacy practices within the academy. There are obvious implications for the ways in which information is stored, retrieved, disseminated, and read (Willinsky, 2001). However in this paper we are concerned with a more particular pedagogical context, namely how ideas are represented in asynchronous web-based discussion boards in contrast to the face to face activities embedded in the more traditional pedagogical practices of the face-to-face seminar or term paper. While these on-line discussion forums often have an in-built linear or thread-like structure to the ways

in which people can contribute and link ideas, nevertheless they enable a very different forum for interaction, for reading and writing, for presenting ideas, and for directly linking to other resources.

Lapadat (2002) argues that the nature of written interaction can provide a key to understanding the potential of on-line learning in higher education contexts. She identifies particular features of written interaction in asynchronous conferences that support the individual cognition and social interaction central to constructivist theories of learning. Examples of these features of written interaction in on-line conferences include: an audience for writing which assists in focusing rhetorical purpose and choice of language; texts that can be jointly created; the permanence of the written word which means that participants can reread parts of discussions; and there is more time to think through the process of writing in asynchronous forums than face-to-face discussion. Others who write more generally about on-line writing share similar sets of assumptions, for example Kress (1998) contends that computer mediated forms of communication such as email often contain the reflexive qualities of writing and the collaborative and dialogic qualities of speech. Scardamalia and Bereiter (1996) also suggest that the particularities of computer-mediated writing can be drawn on in ways that support collaborative knowledge building.

It is of value to consider the above features of on-line writing alongside more general theories of the relationship between writing, learning, and scholarship, and alongside more specific aspects of writing as part of graduate study. Such a consideration enables these features of on-line writing to be set into a broader context of academic literacy. Richardson (2000), for example, argues that writing is a method of inquiry, of discovery, and analysis. She argues it is a way of knowing, not just a "mopping-up activity at the end of a research project" (p. 923). Wells (1999), likewise, argues that writing serves a reflexive function.

Creating a written text is a particularly powerful way of coming to know and understand a topic that one writes about. Especially if one uses writing, not to report what one already understands, but to come to understand in and through the process. The same is true of reading another's text, if one treats it dialogically as a thinking device and not simply a univocal transmitter of the writer's message. (p. 128)

In their discussion of writing at graduate level, Rose and McClafferty (2001) concur, suggesting that writing is a tool for inquiry and conceptualizing as well as a means of delivering findings. These aspects

of writing are, they contend, central to scholarly identity: "writing is one of the primary sites where scholarly identity is formed and displayed" (p. 30). They use this to argue that more attention needs to be paid to writing as part of graduate study, so that students are better apprenticed into the writing practices associated with their discipline, and so that students have a clear understanding of the relationship between writing and the construction and representation of knowledge. More particularly they advocate writing for peers, an audience that has more specificity than the more nebulous scholarly community. Likewise it creates a purpose for writing beyond the display of ideas for an audience of one – the instructor – a common practice for students engaged in academic writing (Dias, Freedman, Medway, & Pare, 1999). Through this they argue that students also become better readers of other's writing. Rose and McClafferty's comments about the lack of attention paid to academic writing in graduate courses is focused on the term paper or dissertation, yet it is of value to consider their comments alongside the emerging uses of on-line writing as part of graduate pedagogy.

A consideration of on-line writing and its place alongside other pedagogical practices such as face-to-face classrooms and written assignments can provide some clues for understanding the use and value of communications technology as part of the teaching and learning practices in higher education. The research literature in the field of technology in higher education is vast, with innumerable studies analyzing the uses of technology, the conditions that enable and constrain use, and the pros and cons associated with that use. This paper does not attempt to review this literature in any particular detail, rather to note two concepts emerging from the literature that are relevant to this study. First, a number of researchers in the field of educational technology have argued that the technology in and of itself is not a determiner of changed or improved pedagogy, rather the effect of the technology cannot be understood outside of its context of use (Blanton, Moorman, & Trathen, 1998; Bruce, 1997; Shields, 1995). Thus case studies are a useful means of understanding emerging technological and pedagogical practices in particular contexts (Kapitzke, 2000).

Second, a recent international study of technology use in higher education concluded that the use of information and communication technologies has stretched the mould rather than radically altered the dominant modes of teaching and learning in most higher education institutions (Collis & van der Wende, 2002). The conclusion drawn by

these researchers is that despite the growing number of university courses that are offered completely on-line, face-to-face lectures, seminars, and tutorials remain central to the practice in most universities. By and large the technology has been used to augment and/or give greater flexibility to the ways in which these more traditional practices have been carried out. Collis and van der Wende argue that there is a need to better understand the mix between on-line and face-to-face learning and the pedagogical purpose served by this blend of approaches. Thus in this paper we examine the blend, particularly where forms of asynchronous writing fit alongside the seminar, term paper, and the reading and writing of print-based texts associated with participation in these activities.

The Use of an Electronic Discussion Program in an Academic Seminar

Context and Perspective

We will turn now to the more specific practices of a graduate seminar in which we were participants.² The perspective that we present in this paper encompasses the point of view of an instructor and a student in the course. As part of the seminar a web-based discussion forum was introduced. Our intention is to describe how this discussion forum was used in the seminar and in so doing identify issues and make comments on some of the literacy practices that emerged through our participation in this activity. This is not a research report as such, rather it is aimed at conceptualizing the changes to existing practices that result from the use of this technology alongside the broader scholarly and pedagogical practices of which they were a part. More specifically, we wish to consider what these changes might mean for new forms of academic writing and the type of learning made possible through on-line interaction. The comments and claims made in the paper are based on our own experience, discussions and interviews with fellow students, and a consideration of some of the contributions to the electronic discussion site.

The seminar participants consisted of 12 registered graduate students, three visitors (two professors and one graduate student) and two instructors (faculty members). The focus of the seminar was on teacher education and it was part of a doctoral program in Education at a Canadian University. The seminar took place over two 13-week terms. At the outset there were two main components to the seminar: a three-

hour meeting each fortnight and the submission of two written assignments. The face-to-face component, like many academic seminars involved discussion of set readings and the presentation of research ideas by students. For the written component of the course students could choose to pursue an area of interest and could negotiate the content of these papers with the instructors. In part the seminar was an opportunity for students to learn the practices associated with academic work, particularly in developing their own original ideas for a potential dissertation topic, critiquing the work of others, and communicating ideas through spoken and written channels.

Background to the use of an Electronic Discussion Tool in a Doctoral Seminar

The discussion tool webCSILE³ was introduced as a communicative site for the seminar program in the second term of the two-term course. It was introduced because of its potential for communication in a variety of contexts dealing with a wide range of topic areas. More particularly it was introduced to provide a bridging point for the fortnightly meetings and because two seminar participants had moved away from campus and this would provide them with an opportunity to maintain some contact with the group and its proceedings. Class members agreed to experiment with using the webCSILE site, although there were no formal expectations to contribute in terms of assessment requirement. All class members regularly used email, although no one in the class had used an electronic discussion tool as part of their program of graduate study.

WebCSILE was designed to enhance and promote “knowledge building communities” (Bereiter & Scardamalia, 1993). Some of the design features of webCSILE are the facility to make links between notes contributed by participants through threading; a system of referencing notes by their author, date and/or connection to other notes; the ability to make “hot-links” between notes and to other web-based resources; and password access for those contributing to the discussion. This makes it possible to develop a common, jointly authored database, which becomes a permanent record of the collective work.

The experimental nature associated with the use of the electronic discussion in this context meant that there was not necessarily great clarity regarding the rules for participation in terms of length of contribution, degrees of formality, obligations to respond, choice of genre,

and so on. Thus many of these rules and their relationship to the purpose for writing and to other parts of the seminar emerged over the term.

WebCSILE in Practice and its Link to the Face-to-Face Seminar

Within this seminar group, webCSILE was used primarily as a forum for responding to course readings. As part of the face-to-face seminar each fortnight the class would agree on a reading for on-line discussion. A topic heading was added to the program along with an opening question, usually by the instructor (but not always), and people could make comments in relation to the reading or respond to the comments made by others. Over the 13-week term, eight topic areas for interaction were posted on the database. There were a total of 102 contributions over this time with a range from 2 notes for one topic (created right at the end of the course) to 26 notes for another topic. Figure 1 displays the nature of the webCSILE space showing the Title List of the notes posted and it illustrates the structure of the notes that were posted for one of the seminar topics on "Learning How to Teach."

As suggested by the structure of the notes in Figure 1, the class participants were responding to questions or issues of importance to them arising from an assigned reading (an article by Kagan, 1992, in this instance). Most of the registered graduate students (10 out of 12) participated in this initial forum, but the visitors did not.⁴ The initial contributions were often lengthy reviews of the readings and unlike the face-to-face discussions, there was minimal threading (that is, responding to each other's notes) between these contributions. In other words people posted one-off responses. Figure 2 is an example of one of these initial contributions.

While the example presented in Figure 2 contains some of the more formal features of a written assignment or review essay – synthesis of article and extended argument by way of reaction to the article – it also contains some more informal features of written text. These informal features include the link to personal experience alone by way of supporting the argument, narrative structure in the second part of the text, frequent use of 'I,' and no citations to other related works.

Figure 1. *An Example of a WebCSILE List of Notes From the First Forum.*

<p>Navigation: Topic List Title List</p> <p>Note: Build On New Note</p> <p>Edit: Edit Note Add Reference Delete Note</p> <p>Administration: Add Accounts Edit Accounts Edit Topic List Add Announcements Edit Thinking Types</p> <p>Resources: WebCSILE Help Web Resources CSILE Papers Announcements</p> <p>Security: Change Password Who Has Access? Security Issues</p> <p>Display: Split Screen Full Screen</p>	<p>Learning How to Teach Notes</p> <p>Sorted by Thread ▼</p> <p>Sort</p> <p>Please select a note: (unread notes are in boldface)</p> <p>Comments on Kagan Article #47 by G.E.</p> <ul style="list-style-type: none"> ○ <u>"Types" #48</u> by S.C. ○ <u>Self as Teacher #59</u> by L.K. ○ <u>Kagan's article #51</u> by H.G. <ul style="list-style-type: none"> ○ <u>a critique and some impressions #52</u> by W.L. ○ <u>identities in transition #58</u> by M.B. <u>a couple of impressions #50</u> by J.M. <ul style="list-style-type: none"> ○ <u>Kagan and my interests #53</u> by W.L. ○ <u>Naturalism and Individualism #62</u> by L.K. <u>Response to Kagan #55</u> by S.M. <u>Image of Self #56</u> by K.L. <u>Questions About Kagan #57</u> by A.A.. <u>What is a Professional Teacher #60</u> by L.K. <u>Some Positive Comments on Kagan #61</u> by L.K. <ul style="list-style-type: none"> ○ <u>Criticism #72</u> by S.C. ○ <u>Responsibility of Critics #74</u> by G.E. ○ <u>thinking criticism #77</u> by J.M. ○ <u>Appraisal #89</u> by K.L.
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Figure 2. *An Example of an Early Note in the First Forum Discussion.*

Navigation:	Author(s): H.G.
<u>Topic List</u>	Note #: 51
<u>Title List</u>	Topic: Learning How to Teach
	Thinking Type: No Thinking Type
Note:	Builds on: Comments on Kagan Article
<u>Build On</u>	
<u>New Note</u>	Kagan's article
Edit:	Kagan's article seems to boil down to the following main propositions grounded on empirical data:
Edit Note	1. Prospective teachers come to teacher education programs with beliefs/images/memories that
Add Reference	a) determine or shape to a large degree how they conceptualize the content of theoretical course work
Delete Note	b) determine or shape how they frame the classroom settings/practicum
Administration:	c) are stable/remain unchanged
<u>Add Accounts</u>	2. Direct experience to pupils seems to be essential in order to reconstruct prospective teachers' prior beliefs about teaching and learning. It seems that this reconstruction process is, in many cases, a delicate matter.
<u>Edit Accounts</u>	3. Teacher education programs have failed to realize to full extent the complexities of the practicum, assuming that prospective teachers can accomplish higher pedagogical tasks right from the beginning when they are in reality preoccupied with the very difficult task of integrating classroom management and instruction.
<u>Edit Topic List</u>	4. Theoretical course work seems to have little effect on how novices teach. Teachers develop their own theoretical framework in response to their experiences in classrooms.
<u>Add</u>	This is how I see the article. I realize that I filter its content and messages through my personal framework/ conceptions/ memories. How I read the article is determined, I guess, in large degree from the memories I have from my own teaching career and my work as science teacher trainer.
<u>Announcements</u>	In our work at the University it was a routine thing to evaluate the students' practicum through journal writing, diaries and discussions after practicum. When asked about the university work prior to practicum they always emphasized the importance of some practical components in a course called "Teaching:" learning to use the overhead-projector, making transparencies, micro-teaching, standing the right way
<u>Edit Thinking Types</u>	
Resources:	
<u>WebCSILE Help</u>	
<u>Web Resources</u>	
<u>CSILE Papers</u>	
<u>Announcements</u>	
Security:	
<u>Change Password</u>	
<u>Who Has Access?</u>	
<u>Security Issues</u>	
Display:	
<u>Split Screen</u>	
<u>Full Screen</u>	

when writing on the blackboard and so on. From my school visits I remember that school advisors were in many cases preoccupied with these same practical things. It was often the case that they praised us at the university for having made some progress in these practical things. Indeed, what has happened in the last ten years or so in the teacher education program at my university is a substantial growth in practical courses at the cost of theoretical courses. Surveys conducted among graduated teachers seem to support the claim that this is considered as progress in the teacher education program. Another change which has been met with appraisal is the establishment of pedagogical content courses, i.e. courses where the content of the discipline students have specialized in is connected to pedagogical knowledge. Pure theoretical courses have always been given low grades in these surveys. In my discussions with prospective teachers through the years they have repeatedly emphasized the uselessness of theoretical courses. I have been rather skeptical to these claims, reminding my students that it is always easier to see the usefulness of some techniques than theories.

But, I admit, this response of mine wasn't wholehearted. In my own practice as chemistry teacher I have been highly aware of how difficult it is has been for me to change my views on my teaching and, in particular, how difficult it has been to implement even some minor changes into my practice. In the mess of the classroom I am greatly dependent on my (unconscious) routine work. Letting the lesson flow smoothly, even on Monday morning or Friday afternoon is not easy. Conducting 25 young people to play in harmony is a delicate task. I am in no doubt that how this goes is dependent on many variables, one's personality being a very important one.

All this said I do not think that theoretical course work at university level is without relevance. On the contrary, I think it is very important. As a science educator I have become aware of prospective science teachers' scientific knowledge. In many cases, they come to my course with deeply rooted misconceptions. They realize this when they become exposed to research findings on pupils' ideas about the natural world. They even become upset because they feel that they have not got the right type of teaching, their

ideas have never been taken seriously. In short, they realize the low quality of the teaching they have been exposed to and they are eager to teach differently. It is at this point things become complicated. There is a very, very long way from “knowing what is wrong” to the successful implementation of new teaching strategies. The long way cannot be traversed successfully without insightful guidance from experienced teachers in real school settings. What happens, instead (in my country), is that this reconstruction of pedagogical content knowledge and corresponding practice never comes to completion. All too soon the novice disappears into his classroom. When he is about to take his first steps into his new way of framing the classroom he becomes “prisoned,” doomed to be alone with his thoughts. Being new in a school where pedagogical theories have been shelved under the label “useless” it is not very likely that the novice will develop his new, alternative perspective on teaching to any substantial degree. This is often the case in Iceland where teachers have gradually become a low status, low salary labor force.

References:

G.E. Comments on Kagan Article. Toronto, Ontario, Canada: Cite Database, CSILE 1.5.

When this initial use of the on-line facility was discussed in class everyone acknowledged that they spent considerable time drafting their initial comment rather than thinking about responding to the ideas of others. This was typically because participants did not want to write something ill-considered for their peers or instructors, and also because writing in the on-line context was something of a foreign experience. Because class member's opening comments in this first week tended to be long and complex, others were discouraged from reading them in a manner that enabled a considered response. In later weeks the class participants tended to make their notes shorter by commenting on more specific ideas raised in the readings or on a particular point made by one of their peers. This made webCSILE contributions more readable on the screen and therefore more open to response. More questions were asked or issues raised and this led to a greater degree of responding to each other's notes and therefore a more threaded structure of notes emerged. For example, in a discussion of the topic a “Knowledge Base in Teacher

Education,” 26 overall comments or notes were made. Of these, eight were opening comments and the rest were responses and threads.

Figure 3. *An Example of a More ‘Threaded’ WebCSILE List of Notes.*

<p>Navigation: Topic List Title List</p> <p>Note: Build On New Note</p> <p>Edit: Edit Note Add Reference Delete Note</p> <p>Administration: Add Accounts Edit Accounts Edit Topic List Add Announcements Edit Thinking Types</p> <p>Resources: WebCSILE Help Web Resources CSILE Papers Announcements</p> <p>Security: Change Password Who Has Access? Security Issues</p> <p>Display: Split Screen Full Screen</p>	<p>Knowledge Base Notes</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;">Sorted by Thread ▼</div> <p>Please select a note: (unread notes are in boldface)</p> <p>Shulman's Knowledge Base #71 by G.E.</p> <ul style="list-style-type: none"> ○ the idea of a knowledge base #86 by J.M. ○ language and Shulman's kn base #91 by L.K. <p>Nancy's style #80 by W.L.</p> <ul style="list-style-type: none"> ○ Intuitive Knowing #109 by G.E. ○ Texts as basis for knowledge #81 by W.L. ○ what do we mean by text? #85 by J.M. ○ some questions re the Donmoyer article #92 by J.M. ○ Objectivity and Knowledge #108 by G.E. ○ relevance #114 by J.M. ○ Post Modernism and K.B. in Teaching #121 by G.E. ○ PM and KB #123 by J.M. <p>Reflecting on Shulman's article #93 by H.G.</p> <ul style="list-style-type: none"> ○ Is this Intuitive knowledge? #110 by G.E. ○ Intuition and tacit knowledge #113 by H.G. ○ Knowing-In-Action #122 by G.E. ○ Hafthor's comments #127 by W.L. <p>Response to Donmoyer Article #119 by L.K.</p> <ul style="list-style-type: none"> ○ Never Ending Debates #124 by S.C. ○ public reasoning #125 by J.M. ○ donmoyer's article #126 by W.L. ○ Donmoyer about k #141 by H.G. ○ Knowledge and politics #142 by H.G. ○ another instance of "later users' hand" #143 by W.L. ○ ...and #146 by S.C. ○ types of knowledge #144 by W.L.
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Figure 3 displays a more highly threaded structure of notes than occurred earlier in the term. However, some contributions still attracted no responses, whereas other contributions and issues resulted in a significant degree of interaction (threading).

Another feature of this latter discussion is that fewer members of the class participated in this discussion (only 6 out of 12 graduate students) and, it must be noted, one of the most threaded discussions (“Some questions re the Donmoyer article”) occurred entirely between the authors of this paper. One of the two seminar members who were not present for the second term participated actively in the forum – the other member was a visiting student from South Africa and he returned to South Africa to a setting where he did not have easy access to the internet. It would appear that about half of the students were beginning to use this forum in a more interactive manner, while the others were opting to simply read the comments.⁵

What constitutes participation in a virtual forum like this is sometimes difficult to determine. Most of the seminar participants read the database at least once a week, however only about half the class (six people) made a written contribution on a regular basis. While the seminar participants felt that they should make contributions to the database, many did not do so. In fact the term “CSILE guilt” was coined by one class member to describe her feelings about not making written contributions. There were various reasons why people did not regularly participate in writing. Lack of time and low priority were the main reasons. Some students felt that webCSILE was too formal and the public and permanent recording of thought was somewhat intimidating. For others the reading of long passages on the screen was a disincentive to participate. Moreover, over the course of the term, the use of webCSILE became less coherently connected to the other activities taking place as part of the seminar. Comments on webCSILE tended to precede any discussion of articles in class and sometimes took the place of face-to-face discussion of articles. Similarly, while there was greater threading in later postings, there was often little linking back or wrapping up either on webCSILE or in class. Furthermore, no connections were made between the writing on-line and the writing of term papers. We now view these pedagogical practices as shortcomings that need to be addressed in order to take advantage of the kinds of communicative potential afforded by virtual discussion spaces like webCSILE. Connections between on-line activities and other aspects of the seminar were unclear and point to the need, as Collis and van der

Wendte (2002) outline, for greater consideration of the relationship between uses of technology and other pedagogical practices, and greater consideration for how those connections can be made in ways that enhance learning.

The Use of WebCSILE in Relation to Academic Practices

We want to draw on the above description to consider in a little more detail how the on-line activities could be more coherently linked to the pedagogy in the graduate seminar, and how the on-line work could play a more explicit part in an apprenticeship into the research and writing practices in the academy. We return to some of the ideas about academic writing presented by Rose and McClafferty (2001) and consider them alongside our own reflections on the process of this seminar and more broadly on our roles and goals as a graduate student and instructor in an academic setting. We concur with the comments of Rose and McClafferty reported earlier that academic writing is not often attended to in graduate coursework. This is somewhat surprising given that those practices central to work in the academy, namely publishing research and gaining academic qualifications and promotion, are based on written evidence – the writing of a book, thesis, journal article, or assignment.

How one engages in what Giltrow (1998) terms the “knowledge-making” verbs central to academic writing such as investigate, examine, argue, discuss, explain, interpret, and analyse, is often taken for granted particularly in written contexts. The structures, styles, conventions, and rules of engagement within academic genres with respect to, for example, the presentation of ideas, the nature of evidence, and the justification of claims, is not only typically implicit, but also subject to variation depending upon disciplinary traditions, the epistemological and methodological approaches within and across particular disciplines, the audience, the mode for communication, and one’s own position in a scholarly community. The conventions in the on-line context in which we were engaged, were also largely implicit, made more so because of the newness and lack of familiarity with the medium.

Through our experience of the on-line activity, it became clear that the forms and styles that participants employed to engage on-line contained some differences from those that we typically employed to engage in face-to-face discussions in class or to write term papers. The on-line activity was more formal and less interactive than face-to-face class, and less formal and more interactive than written assignments.

We therefore suggest that participation on webCSILE was somewhat of an intermediate step between talking face-to-face in the seminars and writing formal essays. For example, here is Jane's reflection, as recorded in her personal journal, on her own writing experience with webCSILE:

I found that those occasions where I participated actively on webCSILE proved to be most useful because putting my thoughts in writing helped to develop a line of thinking that was hopefully coherent and succinct. The act of doing this was at times hard and often time consuming, particularly when dealing with complex concepts and ideas. However in doing this I felt I developed a much better grasp of the subject. What made me think carefully about what I was writing was not only that I wanted to be able to understand an issue or a concept, but also the fact that I had an audience, namely the seminar group, and I wanted my thoughts to be clear and comprehensible to that audience. (Jane Mitchell's Journal entry three weeks into the class)

These ideas regarding audience and the use of writing as a tool for thinking, are similar to those presented by Rose and McClafferty (2001) and Lapadat (2002). It is of note that in class we spent some time talking about the difficulty of writing for an audience, yet we did not address in any particular detail the relationship between on-line writing and other forms of academic writing. In fact when we talked about the on-line work it was typically compared with face-to-face discussion: whether it was as interactive, enjoyable, stimulating of ideas and so forth. This is perhaps because discussion is seen as so elemental to on-line and face-to-face activities. However, we now think it may have been valuable to compare the on-line writing with other forms of academic writing, or to consider how the on-line writing might coherently link to the writing of a term paper. In retrospect we did not fully examine the potential of the on-line activity in light of the part played by writing in inquiry, constructing an argument, publishing, or indeed its relationship to our academic identities. Based on the literature on writing and our own experience, it may be that greater attention to the nature of on-line writing holds some keys to understanding and developing its potential as a tool for scholarly communication.

Future Considerations

Drawing on our experience of an on-line discussion as part of a graduate seminar, we pose the following questions by way of guiding our considerations of CMC as part of the graduate pedagogy in the future

and of coherently linking the reading and writing practices in an on-line forum to scholarly work.

1. *In what ways can the conventions of on-line writing be made more explicit?*

In her detailed analysis of scholarly genres and the conventions of academic writing Giltrow (1998) details the grammatical, stylistic, rhetorical, and discursive devices that are employed in the construction of academic texts in a number of disciplines. Her expose of these devices makes explicit some of the rules of academic writing. Her intention in the book is to assist students in universities to better understand, and therefore participate in, the processes of academic writing. Giltrow's argument has relevance to forms of on-line writing that are emerging as part of graduate pedagogy. While the relative newness of the medium in pedagogical contexts means that forms and conventions of on-line writing are in a process of being developed, nevertheless from our own experience it became possible to clarify some conventions that at least support participation. Some of these conventions are not dissimilar to those of conversation such as turn-taking, responding, length of contribution, and so on. Others are more specific to academic work and scholarly genres. For example, explicating the meaning of knowledge making genres and how they might translate in on-line contexts, may be useful to both guide the design of on-line activities and extend participation. Further, examining ways in which one "positions, conditions and limits" (Giltrow, 1998) oneself with respect to knowledge and to audience is elemental to constructing any sort of academic text. How this translates into styles of writing, choices of grammar and vocabulary, and structures of text is useful to understand by way of extending participation in the practice.

2. *What is the relationship between readers and writers in on-line forums and what implications does this have for collaborative knowledge building and ownership of ideas?*

What appears to be one of the novel features of hypertext environments and indeed one of the intentions of the design of programs such as webCSILE is the opportunity for creating joint work-spaces for the purpose of engaging in a form of collaborative or collective writing. As mentioned previously, Rose and McClafferty (2001) suggest that writing for an audience of peers as part of a graduate study is unusual, yet can

be of great value by way of articulating arguments and presenting ideas for public critique. Moreover, reading and responding to published ideas is likewise an elemental part of the work of a scholarly community. Given the nature of joint writing made possible by web-based technologies, it is not surprising that the notions of knowledge-building and community are attached to the potential of on-line activities (Laferriere, 2000; Scardamalia & Bereiter, 1996). The conditions for learning, scholarship, and the construction of knowledge are in some ways very obvious in on-line contexts. Knowing is not developed in social isolation, ideas are recorded in writing and in a semi-public environment, ideas can be critically reviewed by others, and used and built upon by others (Shulman, 1999; Wells, 1999). The degree to which these conditions are met in any particular on-line interaction are, of course, open to interpretation and require some empirical support.

Second, in a preceding section, reference was made to the work of Burbules and Callister (1996) who suggest that hypertext makes it possible to blur the distinction between readers and writers. This does have some implications for a structured hypertext database such as webCSILE. While the referencing system used in the CSILE software identified who had written each contribution and only the individual writer could change these, the structure and form of each conversation around a given topic can be seen to represent a text in and of itself. In this respect it is a joint text as participants are producing their own ideas and interpreting the ideas of others. This does, however, raise interesting issues pertaining to the ownership of ideas, and how these ideas might be used and referenced in future situations.

3. How can the use of on-line writing fill the gap between face-to-face seminars and written assignments?

We have previously indicated that it was difficult to connect the on-line discussion to either the face-to-face seminars or the written assignments. There were several factors operative during our face-to-face seminar time that limited the linkage with the on-line discussions. The class time was, in theory, devoted to discussion of readings and presentations by students of research proposals or ideas for their term papers. Often the length of time taken for student presentations meant that there was diminished time for a discussion of set readings and for linking the discussion of the readings to any interactions taking place on-line. In retrospect it may have been more valuable to use the on-line

forum as a precursor or postscript to students' oral presentations. This would link the on-line writing to the more substantial term paper, moreover it would not only increase the audience for writing, but provide those attending the seminar with an opportunity to examine the ideas in more depth before or after the presentation.

Conclusion

Social practices of all types are being constantly created and recreated. The impact of computer mediated technologies brings these changes into sharp focus in academic workplaces where the technology seems to fit so tightly to the communicative practices associated with academic work. Our analysis has in part attempted to show some of the potential inter-relationships between language, technology, and academic practice and hence our preferred description of these activities as socio-technical, literacy practices. It is our contention that an understanding of these literacy practices that are part of academic work, and made possible by technology, are of fundamental importance in learning how to engage in these practices. It is not always possible to define precisely the nature and extent of these practices because they are under construction as it were, but a process of refining and defining is certainly important. Once people engage in a practice then they are in a much better position to be able to understand its value and to begin to research ways in which the practice of reading, writing, thinking, and knowing might be changing through our use of technology.

Computer mediated communication tools afford many possibilities for extending the pedagogical and research practices in academic situations. In this paper we described the use of webCSILE, which is one of many web-based discussion programs designed to enable collaborative learning and knowledge construction.⁶ We have conjectured that the use of these programs in educational contexts has the potential to reconfigure the relationship between knowledge and language through how we read, write, and think. How this potential is realized in educational and workplace contexts is an important question. A more detailed analysis of the types of writing that takes place in a variety of academic and graduate contexts as well as on Electronic Discussion Forums will be necessary in order to consider the extent to which participation in these types of forums assist people to engage in the process of academic writing and thinking. As well it is possible to consider how the use of these computer technologies might change approaches to academic writing more generally. Peters and Lankshear

(1996), for example, make reference to views that traditional scholarly journals will be replaced by moderated electronic discussion groups and that this could “blur the line between informal communication and formal reviewed publication” (p. 63).

The task ahead of us is to make explicit the conventions and norms associated with on-line writing and develop ways in which this writing can coherently link to other forms of pedagogical and scholarly practice. However, an important prior point, from an instructional perspective, is to consider ways in which people learn to engage in these practices, particularly when the practice is new or developing and does not have clear rules or standards. A second task is to provide the empirical and epistemological detail required for determining ways in which and the degrees to which on-line writing represents forms of knowledge building. One useful strategy for engaging in these tasks is to develop a rich set of cases in a variety of educational settings using a number of CMC tools to determine where the patterns and norms of discourse begin to convergence or diverge. This paper represents one such case in the context of a graduate level seminar.

NOTES

1. We are using the notion of academic practice in the sense of the construct of “communities of practice” as originally developed by Lave and Wenger (1991), and elaborated upon in Wenger’s more recent writings on this concept (Wenger, 1998; Wenger, McDermott & Synder, 2002). While the purpose of this article is not to develop this particular feature of academic work, we do think that graduate school represents an excellent example of what Lave and Wenger (1991) referred to as “legitimate peripheral participation” as a form of induction or socialization into a well developed community of practice associated with academic writing.
2. The first author was a student in the course while the second author was one of two course instructors.
3. CSILE (pronounced see-sil), is an acronym for Computer Supported Intentional Learning Environment. More recent versions of this software are known as Knowledge Forum. For background to the program see Scardamalia and Bereiter (1996, 1999).
4. Part of this lack of participation in WebCSILE by the visitors may have stemmed from a lack of convenient access to the internet. Another contributing factor may have been that English was not the first language for any of these visitors, although this did not prevent them from making contributions in the face-to-face seminar sessions.

5. This situation of read-only engagement with the forum was referred to by several members during a face to face class discussion of the on-line forum. The CSILE programme has the facility to show the instructor who has read each of the notes.
6. Other common, commercially available discussion forums or bulletin board systems (or BBS) would be WebCT (<http://www.webct.com>), Blackboard (<http://www.blackboard.com>), and virtual university (http://virtual-.cs.sfu.ca/vuweb.new/vu_product.html). There are also numerous free, open source programs available at: <http://www.thefreecountry.com/perlscripts/messageboards.shtml>

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