

Web based platforms in co-located practice – The use of a wiki as support for learning and instruction

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Abstract: This study describes how a wiki platform worked as a resource in a university course on applied ethnographic research method. The platform was primarily used for uploading field notes from students' ethnographic work. We describe the use of the wiki in terms of how it supported orientations among students towards relevant competencies involved in fieldwork, and how teachers used it as a way of gaining access to students' work. We discuss these functionalities in relation to ethnomethodological work on learning-and-instruction, showing how wiki entries were used as references in students' and teachers' talk. Distributed activities were thereby made available for instructive practices, and the competencies involved in note taking and observation could be collaboratively oriented to. We thus show that although the wiki was a web based distributed tool, its primary pedagogical functionality lay in its being used as a resource in co-located face-to-face talk.

Introduction

Wikis are simply structured web-sites, based on the idea of unconstrained editing possibilities, enabling anyone to upload and edit material. The most well known example of a wiki is the online encyclopedia Wikipedia, with the English language version collecting over 1.5 million articles. The originators of the wiki idea described this type of system as “a freely expandable collection of interlinked web pages, a hypertext system for storing and modifying information” (Leuf & Cunningham, 2001, p. 14). The idea of the wiki was to create “the simplest online database that could possibly work” (www.wiki.org).

This is a study of how a wiki was used as a resource in a master's level course in applied research method, a course covering the basics of design-oriented fieldwork. The background of the implementation were the hypotheses that this might be a good way for students to manage collaboration in their project work, and that the wiki could prove pedagogically useful through the ways in which it allows students to share their work with peers. In this paper, we focus on these pedagogical aspects. The study places itself in the context of studies of complex interventions in educational settings (see Brown, 1992), looking at the *process* rather than the learning outcomes of the course (see Koschmann, 2001). We will not give an exhaustive account of the “systemic whole” (Brown, 1992) of these processes, however, but rather illustrate and discuss a set of interrelated points about wiki functionalities on a more general level. In our description of the use of the wiki we will articulate an approach that focuses on how the technology supported students and teachers in showing, orienting to, and “making visible” the subject matter of the course (Lindwall & Lymer, 2005; 2005b). In that description, we make use of ethnomethodological understandings of instructive practices (e.g., Goodwin, 1994; 2007).

The central concerns of CSCL were formulated by Koschmann (2002, p. 20) as pertaining to “meaning and the practices of meaning-making in the context of joint activity and the ways in which these practices are mediated through designed artifacts”. Within CSCL, joint activity and collaboration is recognized as particularly conducive to fostering learning, through the practices of articulation and interaction required to collaborate (Bruffee, 1973; Stahl, 2002). For distributed activities, a collaborative or joint activity becomes harder to achieve (Kreijns, Kirschner & Jochems, 2002). In particular, the objects of collaboration, the concrete *things* around which collaborative learning is organized (Arias, Eden, Fischer, et al., 1999) will not normally be directly shared in a distributed group (Morrison & Dennis, 2005). Some of the central features of collaborative learning are therefore compromised. The fieldwork focused on in this study was one such context, where distribution of activities hindered effective collaboration. As we argue below, the wiki used during the course showed interesting functionalities through which these problems could be addressed.

Wikis and education

Several studies have been made of educational implementations of wikis (see Schwartz, Clark, Cossarin, et al., 2004, for a review). Two wiki symposia have recently (2005 and 2006) been held, where educational uses were one focus. Among the implementations discussed were supports for developing a “community of practice” for teachers (Da Lio, Fraboni & Leo, 2005); adaptations and improvements of the basic wiki architecture for pedagogic purposes (Reinhold, 2006); support for increased teacher guidance to balance students’ free explorations of subject matter content with the desired goals of the curriculum (Lund & Smördal, 2006); and wikis as a way of fostering ICT literacy in a group of university students (Bruns & Humphreys, 2005). There seems to be a general consensus that wikis facilitate “collaborative finding, shaping, and sharing of information” (Reinhold, 2006), but just how this is pedagogically useful is largely unspecified. In this study, we elaborate on this issue, attempting to specify what these collaborative aspects mean in practice.

Implementations of wikis outside of educational settings have been dominated by support for on-line communities that rarely meet face-to-face, rather than serve as resources for physically co-located communities (Gaved, Heath & Eisenstadt, 2006). In contrast, several of the educational uses of wikis are lodged within regular co-located practice (e.g. Lund & Smördal, 2006; Brereton, Donovan & Viller, 2003; Da Lio et al., 2005). Similarly, the implementation described in this study was made to support an otherwise physically co-located community of students, and the function of the wiki can, to anticipate the discussion below, be said to hinge on the surrounding face-to-face talk *about* uploaded text, rather than solely on collaborative work via the platform itself.

A study conducted by Brereton (et al., 2003) engages with the use of wikis and other educational interventions in teaching observational skills to engineering students. Although their focus is not on the wiki as such, one pedagogical aspect of the wiki is mentioned: students’ postings of finished analyses on the wiki, the authors argue, allowed students to see differences within the class, and reflect and comment on these differences. As described below, something similar happened in the implementation reported on here, although not confined to post-facto reflections on finished projects. Since the participants in this study used the wiki as a support for their ongoing work in the course, it could be employed as a resource for ongoing talk about their distributed activities. Talking about work, or “collective reflection” on work has been shown elsewhere (Argyris & Schön, 1974; Lundin, 2005) to be important aspects of learning, and technologically supporting this type of practices has been suggested as an important area for CSCL research (e. g., Baker & Lund, 1997; Huppertz, Massler & Ploetzner, 2005). We return to this issue when discussing the specific functionalities of the wiki, looking at talk about work from the standpoint of an ethnomethodologically informed understanding of practices of learning and instruction (e.g. Goodwin, 1994; Hindmarsh & Heath, 2000; Lindwall & Lymer, 2005).

Setting and study

This study focuses on describing some aspects of the use of the wiki. This technology, however, was only one of a range of “discourse contexts” (Gruber, Peyton & Bruce, 1995), engaged in by students and teachers: besides using the wiki platform, the students met face-to-face, both casually on the university premises, in arranged meetings, lectures and supervision sessions, and communicated electronically in a host of different ways, including telephone and regular e-mail. As Brown (1992) points out, when changing one aspect of an educational environment, this has perturbations in other parts of the setting: “the role of students and teachers, the type of curriculum, the place of technology and so forth [...] are all seen as inputs into the working whole” (p. 143). Accordingly, before the results of the study can be seen in context, we describe this particular setting by way of delineating the subject matter taught, the organization of the curriculum, and the existing technological infrastructures into which the wiki was fitted.

The goal of the course was to introduce students to the practices of design-oriented ethnographic fieldwork, and engage them in scientific writing through a final. Ethnography has been called “invisible work” (Forsythe, 1999), referring to the ways in which common views in research and industry construe its methods as commonsensical and therefore requiring no special competencies besides “what everyone knows”. From our experiences with courses in research method, ethnography does indeed seem to involve several areas of disciplinary competence, which become apparent in students’ troubles in the field, as well as when writing reports. The ways in which some of these competencies played out in the course, and how the wiki was used in the process, is described below.

Before the fieldwork started, the students were divided into five groups, each group being assigned a project. Group one studied learning support amongst school kids, investigating activity in a local science discovery centre. The second group explored ideas of supporting mobile workshops, studying repair workshops for trucks, planes and buses. Group three investigated the use of paper in a newspaper and a photo bureau. Group four looked at facility management work in an office building, and the final group focused on messenger firms that made daily deliveries by truck and car. The students were expected to engage in two weeks of fieldwork and then three weeks of analysis and writing of a report.

In connection to the fieldwork, supervision sessions were held where students could discuss their experiences with each other and the supervisors, providing one arena for more explicit instruction, making available a skilled perspective on the students' experiences through the supervisors' comments (Macbeth, 2004). Supervision sessions were also held during the writing of the report, in which teachers commented on students' drafts of the reports. The writing phase was thus comparatively easily available to direct instruction; teachers could comment on students' phrasings, choice of excerpts, analytic categories used etc. For the practices involved in the fieldwork as such, however, direct instruction was more difficult. As discussed below, the presence of fieldnotes on the wiki contributed to the students' work becoming more available for teachers' instructive work.

The wiki

The original aim of the wiki (figure 1) was to allow the students to share their fieldnotes within their fieldwork group. We used the open source 'TikiWiki' (<http://tikiwiki.org/>) software, one of the most popular free Wiki systems available. Tikiwiki has many of the features of more advanced groupware systems such as support for forums, blogs, and even workflow integration. For our purposes, its ability to protect pages of the wiki with passwords allowed us to support the privacy of fieldnotes amongst the class. The students asked their contacts at the field sites for permission to share fieldnotes with advisors and classmates. All groups obtained permission, except one group where the notes were confidential. For all the other groups fieldnotes were left open, editable to teachers, the respective clients, and the whole of the class. The students were given a demo of the wiki in class, and were asked to enter all their typed fieldnotes into the wiki as the fieldwork progressed. In total over 109 fieldnotes and analytic notes were entered into the system (6 per student), distributed over 86 separate pages in the wiki. Below is a picture of the start page of the wiki.

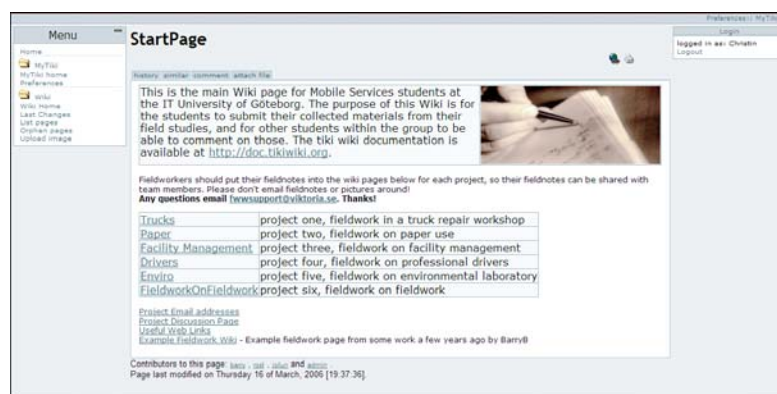


Figure 1: The start page of the wiki used in the course

As seen in Figure 1, the wiki start page consisted in a short introductory text, under which the project sites for each group were listed. The last project, "fieldwork on fieldwork", was our own site, where information concerning this study was made available within our project group and to interested students.

Other available technologies used during the course ranged from paper notebooks to laptops. All students at the program were equipped with laptops that either were their own or rented from the university. The fact that all students had laptops is an important infrastructural aspect of their work in the course. Without personal computers, the wiki would probably not have worked similarly as a resource that was available anywhere for the students, and its educational efficacy could thereby have been compromised.

The study

The points made in this paper form part of a larger project studying learning and instruction in IT design education. Our interests range from practices of giving and following instructions in writing, to developing technological support for the students. In order to make sense of the setting, with these different interests in mind, multiple types of data have been collected. First, the second and the third author participated in the course as teachers and supervisors, and could follow the progress of the course first-hand as participant observers. Second, video recordings were made of supervision sessions, as well as of some of the students' own analysis sessions. Third, the use of the wiki amongst the students provided log data on their sharing of fieldnotes. Fourth, interviews were held with students, covering issues such as how they worked with fieldnotes and how they used the wiki. We were furthermore given some of the printed course work reports with the students' and teacher's written notes, and also notebooks from two of the students. Although this material both affords and demands detailed and exhaustive analyses, the following will focus on highlighting and describing a set of interrelated points about the role of the wiki, with excerpts from the data being used as illustrations of this general discussion.

The wiki as a resource for students and teachers

In this section, we describe some ways in which the wiki worked as a resource for students and teachers, restructuring the activities that they engaged in. The presentation takes the form of two sections, each highlighting one aspect of the use of the wiki: first, sharing field notes as supporting student orientations toward relevant competencies; and second, visualizing student activities as support for teachers' instructive work.

Supporting collaborative learning

As thoroughly described by Scribner and Cole (1981), transforming the practices and technologies surrounding writing can also have more general consequences for how participants relate to text, and for the skills and competencies that are engaged with, and learned. Although Scribner and Cole refer to more large-scale differences in literacy practices, a change as local and small scale as the introduction of a wiki – and the associated practices of writing that change along with it – could nevertheless have consequences that go beyond the mere organization of textual work. In this study, one function of the wiki that became apparent was the way in which it supported and encouraged students' orientations towards relevant practices and competencies involved in fieldwork.

2005-12-12	
09:00 Arrival	09:00 Arrival to Volvo trucks centre
Get telephone	09:02 Picks up the mobile/camera in the car
09:12 Håkan on vac.	09:04 Walk to Håkan's room, he is responsible for the Action service department, however, it turns out that he's on vacation, another woman who is a consultant has taken his office. We decide to talk to Tomas about Action Service later, right now he's at a meeting.
09:12 Talk to Martin	09:12 We go to Martin (janitor) we think that he might know of some good truck that we can follow during the day. He says that it's breakfast right now. We ask if he knows of some car that will need a diagnostics device (ex VCADSPRO). But since this part of the workshop is mostly responsible for wagon damage and changing stickers (that's why it smells of solvent in the room) they hardly use the diagnostics device. He says that what's there today is a theft damage and a crooked wagon. We decide that this part of the workshop isn't as interesting because of that.
- Wagon damage	09:16 We continue talking about Action Service, Martin says that they work a lot of weekends and evenings, that is, when the workshop is closed. During the day they sleep at home, they take the "on-call-car" with them, they are on call 24 hours a day. They get their orders through Gent, where Action Service is located.
- We want to tag along	
- Don't use the diagnostics device (maybe not that type of info)	
- What's in today theft protection damage with wagon	
Talk about action service	
- They work a lot weekends/night when the rest is closed. Then sleep at home.	
Gets telephone order from Gent.	

Figure 2: A comparison between original field note and typed field note.

During fieldwork, one issue that emerged for students was seeing what was relevant in the field. Ethnography's disciplinary competencies became problematic for students in part as to the level of detail at which the "findings" were supposed to appear. This issue surfaced during the early supervision sessions (see section 4.2), but it also became a topic in conversations among peers; the students discussed how to take notes, what to write and

how to formulate what they saw in the field. Figure 2 shows an example of an original field note as compared to a note typed on the wiki. It shows how the wiki engaged students early on in the production of text. It was in part through orienting to the skills and norms involved in this basic disciplinary writing that students began developing a sense of there being differently “good” field notes, and thus differently “good” practices of field observation.

As is visible in Figure 2, the typed field note is more extensive than the original, indicating that work has been put on elaborating the note, adding detail, providing explanations of terms etc. Through the ways in which the instructions and the organization of the students’ collaborative fieldwork encouraged continuous typing of fieldnotes after each day in the field, the wiki thus influenced the students’ analytic work. Entering field notes, however, was not mere typing for private analytic purposes: writing on the wiki was a public activity displaying each individual’s activities to the rest of the class and to the teachers. Otherwise private and “invisible” work became accountable work, to which students were made answerable in discussions with peers. The public character of field note typing, and the student’s orientation to the field note *as* public, thus led to elaborations of notes with an eye toward the potential reader.

Interestingly, students did not use the wiki much to comment on others’ notes. Instead, they reported speaking to one another in person when discussing notes. Face-to-face talk was thus the preferred discourse context in which the proper content and lay out of field notes were highlighted. This *reterritorialization* of web-based media into co-located practice points to an important consideration for CSCL research on wikis and other web-based platforms: collaborative systems with a lot of built in functionalities for distance interaction might not be the best option for the most common forms of educational practice, where distributed and co-located elements of work are intertwined. We return to this issue in the discussion.

During interviews, students reported having read each other’s notes, within groups as well as within the rest of the class. This was done “to get an idea of how the other members went about their work, to get ideas on what to focus on”, as one student put it. Confirming this, website logs showed students reading each others’ fieldnotes, and each note being viewed on average 70 times. As a consequence of this sharing of field notes, practices of wiki use tend to spread. On a surface level, analyses of the wiki pages show the development of common norms for what a “proper” field note was. As one group put up a lot of drawings and pictures, for instance, others could imitate this way of working. Time coding next to field notes (as in figure 2) was one practice that spread quickly. Another illustrative example is the early use by some groups of emoticons (e.g., “smileys”) and other textual techniques tied to web-communication; upon being confronted with the more serious tone in other students’ fieldnotes, students deleted these icons and imitated the tone of others’ notes. These surface traces of collaborative processes suggest that students oriented towards developing and bringing their note taking and typing practices into line, thereby collaboratively defining and orienting towards norms of good practice.

Notes becoming similar also implied observational activities tied to note taking being influenced. The original differences between the group members’ notes, that is, did not concern only surface features, but also *what* was captured in the notes. Thus, the disciplined perception (Goodwin, 1994) of fieldwork surfaced as a participant’s concern, and the competencies involved in fieldwork were made into topics in students’ everyday conversations. Furthermore, through a common orientation towards writing field notes in a “good way”, students not only oriented towards doing right, themselves. Such discussions also make possible engaging in practices of explicitly formulating and identifying something done well – to distinguish a good field note as collaboratively defined from a “bad” one. Of course, students could, with some effort, have read each others’ field notes and engaged in these practices even without the wiki, but the fact is that during previous years, reading and comparing notes did not become similarly focal for the students, arguably as a result of the extra work taken to make private notes into a publicly available and referable resource.

The way professional competence to a large extent involves a fluency in seeing and talking about the discipline’s workaday objects has been a recurring issue in Goodwin’s (e.g., 1994; 1995) studies of archaeologists, marine biologists and other professionals. Although Goodwin focuses on vision *per se*, the instructive practices he describes – what he calls “the interactive organization of apprenticeship” (2007, p. 57) – show how interaction can be pedagogically efficacious by virtue of shared orientations to common “domains of scrutiny”. In a similar vein, Hindmarsh and Heath (2000) have analyzed interactions around “objects” as critical to the inculcation of newcomers into the skilled ways of acting in professional settings. In line with these studies, we could see the wiki as supporting the students’ initial dealings with ethnography through encouraging orientations towards the visual-and-discursive

competencies by which the field is to be seen in terms of relevant categories, organized as a set of “interesting” features and findings, and described through textual practices.

Supporting instruction

The teachers’ task during the course was to guide the students and provide timely support in their ongoing work. At the early supervision sessions, the discussions with students centered on their difficulties in deciding what was “important” in the field, as they struggled with getting to grips with what fieldwork was all about. Basically, the students reported either “seeing nothing”, or being overwhelmed by the stupendous amount of detail that could be recorded in any setting. “I didn’t know what was interesting”, was one student’s formulation of the issue. In contrast to this, an experienced fieldworker tends to have some bearing on what might be an interesting feature to note, even though every new setting requires a great deal of re-learning. Having read the students’ notes on the wiki, teachers were better able to respond to these issues, and could refer to students’ field notes in their formulation of instructions. The students’ own work could thus be used as “cases” (Macbeth, 2004) in the sequences of talk-in-interaction constituting the supervision session.

To take an example from the group looking at delivery firms: in the supervision session, one of the supervisors brings up an issue that the students have mentioned to him, about the drivers just doing the same things every day, and their fieldwork being “saturated” after two days in the field. Having the students’ field notes on the laptop in front of him, he counters their description with one of his own:

Excerpt from supervision session

- 1 Teacher: you said earlier that it seems that you are writing the same notes, that you are seeing the same things all the time
- 2 Student: yes
- 3 Teacher: just before you came in today. eh, and eh when I’m looking at your notes they’re not, they’re kind of specific. so you make kind of good notes. it’s not about the same things going on, is it? cause when I look at your notes ((leans in to look at the screen)) it’s not, “nine forty five, eh ninety two to Marstrand, could you call Kick’s at the Arcade”. ((leans back)) I guess he doesn’t make that phone call every day
- 4 Student: no but they make phone calls to other customers [...] they have the same routine, I don’t see the difference, don’t know how to interpret



Figure 3: Supervisor (to the left) reading aloud from students' fieldnotes

In this short excerpt, we can see some of the roles played by the wiki field notes in the early supervision sessions. The students’ descriptive categorization of “sameness” (turn 1) with regards to their notes and the drivers’ work, is juxtaposed with designations of the notes as “quite specific”, “kind of good”, and “not the same” (turn 3). The conversation continues, with supervisors offering alternative descriptions of the students’ own field notes, in order to make them see what a skilled ethnographic vision (cf. Goodwin, 1994) – enacted through the instructions – would see in the notes. The supervisors bring up examples of what they see as “findings” and “interesting things” thereby using the uploaded material on the wiki as resources in their formulations of instructive remarks. Through instructions and corrections, made with reference to the concrete objects present on the wiki, relevant competencies were made visible and thereby pedagogically available for the students (Lindwall & Lymer, 2005). Since this kind of course content involves skills and practices that are hard to articulate and explain in general, having concrete student-produced text at hand proved valuable for the teachers to be able to articulate suitable instructions and advice.

Apart from field notes, the students also uploaded analytic notes from their meetings, displaying for instance how they grouped excerpts from field notes according to their developing sense of what was interesting. This made available to teachers the students’ grasp of the discursive practices of social scientific analysis. Recurring

ways of reasoning made visible through the wiki – as for example a tendency to make psychological interpretations of *why* people behaved this or that way – could be met during the supervision sessions. Beginning each session with knowledge of students’ work proved beneficial, as teachers knew what students were up to even in the absence of any submitted texts. The analytic notes would show, for example, how the facilities management group analyzed their fieldnotes, using the categories “preparations”, “communication”, and “mobility”, while the group studying a science centre used a distinction between “active” and “passive” events, defined respectively as “thinking for yourself, two-sided communication” (such as a visitor asking a guide for directions or seeking information from signs), and “visitor only fed information, one-sided communication” (such as following a guide without asking questions, or “just looking at stuff”). The notes from these two groups thus made visible two quite different analytic venues. The former was more in line with what was preferred, while the latter was responded to as being in conflict with the approaches to interaction and conversation taught in the course. Knowing about these differences was useful for the instructors: they could respond to the students’ choices of categories and strategies, seeing them for the ways in which they differently measured up to the sought after brand of design-oriented fieldwork.

This instructive function of the wiki hinges on the *responsive* nature of teaching; teachers and students, that is, “interpret each others’ actions and make, what seems to them, relevant responses” (Dyson, 1999, p. 144). Just as students gain access to disciplinary knowledge through the supervisors’ instructions, the supervisor gains access to a concrete sequential context in which to formulate instructions through *students’* actions (cf. Lindwall & Lymer, 2005b). And for this, students’ actions need to be concretely available in some form. Through wiki entries’ presence as “persistent artifacts as discourse reference” (Morrison & Dennis, 2005), providing students’ activities with an increased visibility, the teachers’ relevant responses could be made with reference to concrete texts, something that otherwise would have had to await the first drafts of the report. Rather than having to instruct students in note taking, observation, and analysis generally, the teacher could respond directly to students’ own products, counter students’ formulations of their own work, seeing in their notes qualities that they themselves had not the ability yet to see.

Discussion

In this study, we have described and discussed how a wiki was implicated in the processes of teaching-and-learning during a course in applied research method: first, by providing a material support for sharing text, it supported the status of “proper field notes” as an oriented-to feature of the students’ work, and as a topic in their everyday conversations. Second, by encouraging a continuous production of text, teachers could assess student activities and use this as resources in their work, partly through the possibility of referring explicitly to wiki notes in supervision sessions.

Students used the uploaded field notes to *talk about* ethnography’s disciplinary concerns. Formulating practices as part of getting to know them have been lifted up as an important aspect of learning (e.g. Argyris & Schön, 1974; Nonaka & Takeuchi, 1995; Orr, 1996; Lundin, 2005; Höyrup, 2004). This positioning of dialogue among colleagues as a pedagogical practice (Järvinen & Poikela, 2001) shares the CSCL tradition’s view of collaboration as particularly conducive to learning (Bruffee, 1973; Stahl, 2002). In this study, we have thought of collaboration in terms of how students and teachers orient towards, show and make visible relevant competencies. We argue that an interest in such orientations might be a useful way of approaching the study of educational technologies; pedagogically relevant aspects of technologies are articulated without treating technologies as independent variables leading to straightforward effects on learning outcomes (see Lindwall and Ivarsson, in press, for a similar approach to the contrasting of two different technologies used in a physics lab).

When describing the use of the wiki, we have not been concerned only with talk, but also with material and embodied aspects of interaction. Having concrete objects at hand to point to and talk about has been seen previously to be an important aspect of practices of learning-and-instruction, in everyday as well as professional settings (cf. Goodwin, 2007); in a study of a tele-services control centre, Hindmarsh and Heath (2000) describe “object focused discussions”, a kind of articulation work that the authors argue to be central for the inculcation of newcomers into specialized work settings. Similarly, Goodwin’s (1994; 1997) studies of instructive practices in archaeology and chemistry show how deeply the development of disciplinary competence is dependent upon interaction around the concrete objects of the setting. The wiki can thus be said to make the disciplinary objects of ethnography – field notes, analyses, and observations – accessible and referable in students’ talk. Thereby, the participants could orient to these objects, and to the competencies involved in their production and proper perception. This was a central part of the role of the wiki, not only in peer-to-peer talk, but also in instruction.

While students used the uploaded field notes to develop a sense of what a field note was, the teacher's task was to provide instructive guidance to the students. The prime site for this was the supervision sessions; in close face-to-face engagement with students, an instructor can provide timely responses to students' actions, seeing in these actions evidence for lack of understanding, faulted presuppositions or the like, and in sequences of verbal remark construe these as in need of correction, thereby showing what was to be taken as a correct, rational and effective way of acting in this setting (cf. Goodwin, 2007; Lindwall & Lymer, 2005b; Lundin & Nuldén, 2007). But this requires of students' actions that they are visible to the instructor, and during fieldwork they typically are not. Through referring to field notes uploaded on the wiki, the instructor could nevertheless talk about students' activities in the field. In so doing, he could instruct them as to what was there to see. Through making available a skilled perspective on their notes, the supervisor could *show* that skill in and as the alternative formulations he offered.

The wiki can be said to have afforded a sort of social translucence (Ericksson & Kellog, 2000; Thomas et al., 2001), in that it allowed students "to observe and imitate others' actions, [...] to create, notice, and conform to social conventions" (ibid, p. 873). When systems supporting such visualization of distributed activities have been developed, the context has most often been the implementation of networks of workers or learners that rarely meet in person. Therefore, functionalities for mimicking the structures of ordinary conversation have been addressed in these systems (Ericksson & Kellog, 2000; Kirk & Fraser, 2005; Mühlpfordt & Wessner, 2005). Morrison and Dennis (2005) summarize such efforts within CSCL as having found three aspects particularly important: "visual reinforcement of shared knowledge, persistent artifacts as discourse reference, and shared spaces for mutually editable information" (p. 20). In this study, the wiki was only one of a range of different discourse contexts available to the students. Wiki entries thus worked as *resources* in ordinary face-to-face conversation, rather than as means for *replacement* of the same. In that sense, it was a system for collaboration, rather than a collaborative system in itself. The problems addressed through the use of the wiki, then, were not ones relating to lack of conversational interaction per se, but rather to the relative difficulties involved in establishing concrete shared references in talk, when the activities talked about were engaged in individually, and at different locations. Since this mix of face-to-face and distributed activities is the dominating organization of education, the dominance of collaborative tools for distance interaction might lead to potential applications of CSCL research being neglected.

The functionalities described here should not be taken as specific for ethnography as course content. On the contrary, commenting and criticizing text is a pervasive practice in higher education. Furthermore, many other collaborative activities involve individual work that is similarly rendered inaccessible for others through spatial distribution, hindering a common orientation in talk to competencies involved in that work. Da Lio (2005) makes this observation in relation to a wiki implementation to share teacher practice, stating that "although teachers develop new knowledge through their work, it is often poorly documented and must be better managed to capture both tacit and explicit forms" (p. 86). Likewise, many educational programs involve elements similar to field work. Consider for example the work place practice engaged in by students in many professional study programs (teacher students is one example: see Huppertz et al., 2005, for a study of video-based facilitation of dialogue in a group of pre-service teachers). These similarities suggest wider applications of simple web-based technologies. In particular, we argue that distributed activities, through continuous visualization on wikis or similar systems, might be made more accessible for collaborative co-located practices of learning and instruction.

Conclusion

In this study, two interlinked aspects of the pedagogical usefulness of a wiki have been described and discussed. In particular, the ways in which the wiki could visualize otherwise individual work – and make that work available for collaborative learning and instruction – was highlighted as an important functionality. While many implementations of wikis have been directed at supporting shared databases of student texts *about* some subject matter, this study shows how the use of the wiki can be based not on the uploaded texts themselves, or on interaction through the web based medium, but on face-to-face talk surrounding the texts. Thus, an important value of the wiki lies in the visualization and sharing of work, and the ongoing conversations about work facilitated by that visualization. Distributed groups of learners are not necessarily distributed all of the time, but to the extent that they are, CSCL could offer accessory discourse contexts by which their work is tied together and more easily shared and referred to in instructive talk among students and teachers. The results of this study suggest a set of interesting functionalities of this simple platform, addressing issues concerning peer-to-peer learning, the pedagogical availability of curricular content, and the teachers' task of designing their conduct in relation to the students' developing competencies. Students' reports on how they discussed and developed norms of good practice in

ethnography, and brought field notes in line with each other, point to interesting venues of continuing research, providing further details of the actual practices of wiki use. Researching more into these areas would, we argue, be beneficial to developing an understanding within CSCL of the pedagogical potentials of wikis and similar systems.

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Acknowledgements

This research has been financially supported by the Knut & Alice Wallenberg Foundation, Wallenberg Global Learning Network II. It was carried out mainly within the context of the Linnaeus Centre for Research on Learning, Interaction, and Mediated Communication in Contemporary Society (LinCS), and the Network for Analysis of Interaction and Learning (NAIL). Additional support was received from the Kaleidoscope CSCL SIG.