Discursive Approach for Studying Contexts in Students' Collaborative Activity

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Abstract: The aim of this study was, by means of discourse analysis (Gee & Green, 1998), to explore what contexts were built and reflected in a student pair's collaborative task which took place in a university course. The special focus was to develop methodological tools for studying the complex nature of learning embedded in a specific context. The study revealed three different context types that were built through the students' discourse. The students' prior knowledge (socio-cultural context) as well as local context, for example earlier discussion with the teacher, served as main resources which the students drew on in their immediate context. In the immediate context, a co-text, such as a written text or an earlier discussion, made up the complete shared context for reasoning and enabled collaborating in the task. The study demonstrated how the discourse both reflected and constructed the context in which it was used.

Introduction

Recently, in the area of Computer-Supported Collaborative Learning (CSCL) research, interests have increasingly shifted from the outcomes and products of collaborative work towards the analysis of the processes of collaboration. This shift shows as attempts to gain understanding about the nature of productive joint activity and as identification of interactional features that are important for collaborative learning (e.g. Weinberger & Fischer, 2006). Whereas these studies, to a large extent, have focused on the processes of collaboration mostly from a cognitive and social perspective, there is a need to extend the perspective also to the physical and socio-cultural aspects of collaborative activity, and to the classroom contexts in which collaboration is embedded. In CSCL research studies that focus on how interaction is shaped by and is shaping the context in which interaction takes place are still rare (but see, e.g. Arvaja, Salovaara, Häkkinen & Järvelä, 2007; Staarman, Aarnoutse & Verhoeven, 2004). However, according to Wertsch (1991), it is not possible to study thinking and cognition independently from the social, interpersonal, cultural, and historical settings in which they occur. Cognition is a public, social process embedded within a historically shaped material world (Goodwin 2000) in the sense that it relies on conceptual and material resources and tools that originate from the culture (Bliss & Säljö 1999). To understand classroom activity and learning, we need to study how people appropriate and master the tools for thinking and acting that exist in a given culture or society (Wertsch 1991), and how these are reflected in the participation in communities of practice (Wenger, 1998).

The focus of this study was, by the means of discourse analysis (Gee & Green, 1998), to identify different aspects of the immediate and mediated contexts that were reflected in a student pair's discourse while they were participating in a collaborative task in a higher education context. The aim was to explore how, through discourse, different past, present and future contexts were constructed and re-constructed during moment-to-moment interaction.

Theoretical Background

This study builds on the notion of contexts and situations as being socially constructed (Erickson & Schultz, 1981; Linell, 1998). This perspective targets attention on the dynamic and interpretive nature of participants' actions and discourse, and how through these actions and discourse the participants shape and are shaped by the context being constructed (Gee & Green, 1998). Thus, context is not a predefined or objective environment (Goodwin, 2000; Linell, 1998), but only includes those contextual dimensions which are or become relevant to the participants in the activity (Erickson & Schultz, 1981; Linell, 1998). In this way the participants themselves produce and create the context through their joint activity (Goodwin & Duranti, 1992; Linehan & McCarthy, 2001; Linell, 1998). The context produced involves aspects of the physical, social and cognitive environments that the participants perceive, believe, or know to be relevant. Thus, the relevant contexts are constructed through language and communication, which means that contexts are, to some extent, communicative constructs (Linell, 1998). For example, in collaborative situations the potential context(s) provides resources for understanding and interpretating the topic under discussion (Goodwin & Duranti, 1992), and the relevant contexts are those referred to or oriented to in the discourse (e.g. Buttny, 1998).

Linell's (1998) notion of *contextual resources* and Gee's and Green's (1998) notion of *aspects of situation* refer to the possible resources that participants use in their shared meaning-making and interpretation process in discourse and activity. These resources can be divided into immediate and concrete as well as into

mediated and abstract. Immediate and concrete resources refer to the *immediate (perceptual) environment* which includes, for example, physical spaces, persons, objects and artifacts that are present (Linell, 1998). Similarly, Gee and Green (1998) talk about *material aspects* of situation, such as actors, objects, artifacts and places present (potential resources, Linell, 1998) or referred to (relevant resources, Linell, 1998) during interaction. These concrete resources and the meanings attached to them guide discourse and shared activity. Another immediate resource is Linell's (1998) notion of *co-text*, which comprises the participants' previous actions and discourse that is actively used in the "new act of sense making" (p. 132).

While the above described resources deal with the immediate contextual resources (Linell, 1998) or aspects of situation (Gee & Green, 1998), others deal with resources that are mediated and abstract. In a sense, these contexts or aspects of situation are reflected and constructed through participants' discursive activity. These include *background knowledge, experiences, assumptions or beliefs* about the things discussed in the discourse in question or about other persons involved in the discourse (Linell, 1998). It also includes *socio-cultural contexts*. These are, for example, the abstract situation definition or the framework of "what is going on" in the actual situation, as well as the specific organizational context with its regulations and hierarchies. Also, Gee's and Green's notion of a *socio-cultural aspect* of a situation refers to personal, social and cultural knowledge and beliefs. However, it also includes feelings and identities relevant in a situation. Identities refer to norms and expectations, roles and relationships, and rights and obligations that are constructed to guide participation and activity. Additionally, Gee's and Green's (1998) *semiotic aspect* refers to sign systems such as speech, writing, images and gestures, and also more generally to cultural models. These cultural models, as well as Linell's (1998) socio-cultural contexts, can be seen as resources that people use to guide their actions and interpret new situations. Cultural models are like theories of action situated in social and cultural experiences (Black, 2007), or general ground rules of organizing shared activities (Linehan & McCarthy, 2001). For example, different school activities have particular meanings for the students depending on previous experiences, attitudes and meanings they have attached to the activity through their extended participation in their relevant (learning) communities (Wells & Arauz, 2006).

Staarman, et al., (Staarman, Aarnoutse & Verhoeven, 2004) and their notion of intertextual connections comes close to the above described aspects of situation and contextual resources. In their study they demonstrated how children used different intertextual connections, both explicit and implicit, to create meaning in the learning situation taking place, both in face-to-face and Computer Mediated Communication (CMC) conditions. Explicit connections were explicit references to shared texts, including oral texts and other media. Implicit connections were implicit references to personal experience or prior classroom discussions. The notion of intertextuality provides a framework for understanding how different moments in time are tied together and how people draw on past texts to construct present texts and implicate future ones (Floriani, 1993; Gee & Green, 1998; Pappas, Varelas, Barry & Rife, 2002).

The focus of this study was targeted especially to understanding how a student pair, through their discourse, was negotiating, interpreting and making sense of their context, and what resources or aspects of situation were relevant in their collaborative task which took place in a university course. The study used the means of discourse analysis to highlight what contexts were built into the students' shared activities. The special focus was to develop methodological tools for studying the complex nature of learning embedded in specific context.

Methods
Participants and Context
The subjects of the study consisted of one small group of higher education students studying in a course of educational psychology entitled "Learning Environments and Educational Technology". The group consisted of two female students. The students were part of a larger international student group whose shared language was English. The small group worked on a project work assignment which concerned the making of an evaluative questionnaire for users (teachers and students) of a web-based learning environment in use at their university. This paper concentrates on one lesson based on this project work and draws on empirical examples from the classroom discourse. The task in this particular lesson was to revise and continue the development of the questionnaire, which was drafted beforehand, outside the lessons. The students worked in front of a laptop, where they had access to the drafted questionnaire and the web-based learning environment to be evaluated.

Data Collection
Student pair work at the laptop was video- and audio- taped. The video camera was positioned so that the laptop screen was also visible on the tape. However, the camera could not record, for example, the exact words displayed on the screen, although one could still see from the tape the general view of the screen and the section on which the students were working. Additionally, field notes were written based on the direct observations in the classroom.

Data Analysis

Verbatim transcriptions of student talk were made from audio and video recordings. Non-verbal activity relating to discourse (e.g. head nodding, pointing at the laptop screen) and other activity (e.g. reading, writing) was also transcribed. Transcribed video and audio data were analyzed through an ethnographically grounded approach to discourse analysis (Gee & Green, 1998). According to this approach language is seen as a socio-cultural practice and social resource of the group, and the focus of analysis is more on what participants accomplish through their discourse rather than on what the form or function, as such, of the language is. This perspective of language and discourse is seen as simultaneously reflecting and constructing the situation in which they are used. A particular area of interest was in analyzing which aspects of situation (Gee & Green, 1998) and contextual resources (Linell, 1998) were reflected in the discourse and, thus, what contexts were considered relevant and built into the shared activity. Therefore, the focus of the analysis was in how the students together negotiated, constructed and re-negotiated the social situation and the task context. In this paper the main findings are demonstrated through empirical examples.

Results

In the lesson analyzed the particular focus of interest was on the task context of the students' activity and the aspects of situation and resources that were relevant from that perspective. Three different general contexts characterized the data:

Type 1: Immediate (perceptual) context
Type 2: Local context
Type 3: Socio-cultural context

These contexts and their specific aspects (Gee & Green, 1998) and resources (Linell, 1998) are now demonstrated through empirical examples and their interpretation through discourse analysis. The purpose here is not to present the full categorization of resources and aspects of situation in the analyzed lesson, but to highlight what is typical of them in order to exemplify the analysis.

Immediate Context – Artifact as a Mediating Tool

Immediate context refers to the immediate (perceptual) environment (Linell, 1998). It includes those concrete or material resources (Linell, 1998; Gee & Green, 1998) that are relevant in the participants' shared context of activity. In the student pair's work the laptop as a concrete resource played an important role in mediating their activity throughout the entire analyzed lesson. The drafted questionnaire as seen on the laptop monitor and the on-line environment to be evaluated were the most important concrete resources that mediated student discourse and activity. Students also drew on different semiotic aspects of situation (Gee & Green, 1998) in their collaborative task. Student shared activity was built on reading, writing, gesturing and speech.

The following example demonstrates how the drafted questionnaire serves as a mediating tool and reference point, enabling the student pair to make progress in the task. Since the nature of the written text is that of a permanent artifact it gives the students a chance to review and revise the questionnaire through dialogue and consequently, simultaneously, affects the nature of dialogue being mediated by the artifact (Excerpt 1):

Excerpt 1.

1 Katrin: Ok. *How often do you use the environment* (reads whispering from the screen)? [Immediate context - written text as co-text] Maybe then we should start with *this one which tools are you actually using* (gestures at the screen and reads). [Immediate context - written text as co-text]
2 Eva: Yhy.
3 Katrin: And *which ones are you not using* (reads from the screen)? [Immediate context - written text as co-text]
4 Eva: *This one* (points to the screen). [Immediate context - written text as co-text]
5 Katrin: Yeah. I think we should ask maybe *both*. [Immediate context – previous discussion and written text as co-text]
6 Eva: Yea, yea. How about *this one? What are the difficulties* (reads from the screen). [Immediate context – written text as co-text]
7 Katrin: Maybe we should leave *an open-ended question* rather to the end. [Immediate context – written text and previous discussion as co-text, referring to the question "what are the difficulties?"]
8 Eva: But we. How are we going to rate *these ones*? [Immediate context – written text as co-text]
9 Katrin: *Rate*? [Immediate context – previous discussion as co-text]
10 Eva: Yeah.
11 Katrin: You mean *the last one*. [Immediate context – previous discussion and written text as co-text]
12 Eva: No, no the *questionnaire* are they *open-ended* or…? [Immediate context – written text and discussion as co-text]
13 Katrin: No, we should make *categories*. [Immediate context – discussion as co-text]
14 Eva: Yhy.

15 Katrin: Maybe we should. I don't know.
16 Eva: *Easy, not easy, stuff like that*. [Immediate context – discussion as co-text]
17 Katrin: Yeah. Our *first question* (reads from the screen) *how often do you use it*. [Immediate context – written text as co-text]
18 Eva: *Very often, often, stuff like that*. [Immediate context – discussion as co-text]
19 Katrin: Yeah, but maybe we should *specify it. Like each day, twice a week, once a week, once a month or something*. [Immediate context – discussion as co-text]
    […]
20 Eva: So I put *this* (starts to revise the questionnaire). [Immediate context – written text as co-text]
21 Katrin: Maybe we should put *categories* already in brackets if we know them (Follows Eva's writing). [Immediate context – discussion and questionnaire draft as co-text] Maybe. I don't know shall we agree *five categories* always. [Immediate context – discussion as co-text]
22 Eva: Yeah.
23 Katrin: I think *it's the easiest*. So how do we *specify it? Once a day?* [Immediate context – discussion as co-text]
24 Eva: *Once a day, once a week, less*… [Immediate context – discussion as co-text]
25 Katrin: Ok, let's go. (Eva starts to write, Katrin follows the writing).
The above excerpt demonstrates how the written text - the drafted questionnaire - simultaneously provides a focus for discourse and reasoning for the task (Turns 1-19), and also embodies the progress made (Turns 20-25). Thus, the questionnaire serves as an 'improvable object' for the students (Wells, 1999). It is also used as a shared reference object which mediates student discourse. The written text that is explicitly and implicitly referred to in the discourse serves as a co-text for the students, which is actively used in the "new act of sense making" (Linell, 1998, p. 132) (Turns 1-8). Discussion itself is also used as a co-text – that is, the previous discussion serves as a co-text for reasoning further the subject in hand. This is well demonstrated when students start to think about the categories and develop their ideas based on one another's suggestions (Turns 9-19). Thus, they are not using the written text as a reference here, but instead, build their ideas on one another's (verbal) suggestions. Co-text is a relevant indicator of building a shared immediate context, and also its prerequisite. In the students' activity building shared context is done through different semiotic resources (Gee & Green, 1998). Reading and writing, co-textual references to written and read text, and building on furthering discussion, as well as gestures to the monitor, are all semiotic means that serve in creating the shared context and content base in the students' collaborative task.

Local Context – Continuity in Task Activity

Local context widens the notion of immediate context. It includes the immediate context but also references to past and future concerning the (task) activity at hand. It means that in the shared task context the references to past and future discourse, or activities concerning the task, are relevant in order for one to proceed and understand the task at hand. Local context can be seen as a task frame guiding the activity in the immediate moment-to-moment interaction. It influences the goals and choices made in the immediate context:
Excerpt 2.
1 Katrin: So then… which one of *these* I am not using? [Immediate context – referring to tools written in the drafted questionnaire, written text as co-text]
2 Eva: Also *these* (gesturing at the screen). [Immediate context - written text as co-text]
3 Katrin: Yeah. I would, I would also put *it* [Immediate context – written text as co-text] in categories, because *it's easier for us to do the statistics*. [Local context – reference to the future activity]
4 Eva: Yhy. Yeah. But how can we do *this why-part?* [Immediate context – referring to the questionnaire in the screen, written text as co-text]
5 Katrin: Why? I think *we have to categorize it afterwards*, like qualitative. [Local context – reference to the future activity]
6 Eva: Okay.
In Excerpt 2 student discussion is based on the drafted questionnaire. The students negotiate which of the questions they will categorize and which they will leave as open-questions. Katrin suggests making categories for one of the questions because "it's easier for us to do the statistics" (Turn 3). Thus, she is referring to future activity concerning the task in hand, which influences the decision-making in the immediate context. In the next turn (4) Eva implicitly suggests that the "why" questions connected to the question "which tools do you use / not use" cannot be categorized. Katrin implicitly agrees and refers to future activities when she says "we have to categorize it afterwards" (Turn 5).
Excerpt 3.
1 Katrin: Then *he is really interested* [Local context – past discussion with the professor] *that one that what could be improved*. [Immediate context – questionnaire on the screen as co-text]
2 Eva: Yhy.

3   Katrin: But maybe we can first ask *this one* (gesturing at the screen). [Immediate context – written text as co-text]
4   Eva: *Which one do you use* [unclear, reviews the questions written whispering] *or do you have difficulties?* [Immediate context – written text as co-text]
5   Katrin: Maybe, I mean we shouldn't do too many questions, I would say like one…
6   Eva: Yeah.
7   Katrin: …one page, maybe we should leave *it* away and just ask *what could be improved*. [Immediate context – previous discussion as co-text, referring to question "do you have difficulties (it) and what could be improved"]
8   Eva: Oh, okay.
9   Katrin: I don't know.
10 Eva: Yeah, no problem.
11 Katrin: I mean, oh what is more important we have to use *this one* 'cause *I think aa professor is really interested in that one.* [Immediate context - referring to the screen to the question "what could be improved" (this one – that one), written text as co-text; local context – past discussion with the professor]

In Excerpt 3 students are reviewing the questions in the drafted questionnaire and negotiating what should be left out. Katrin suggests leaving out the last question "do you have difficulties" and suggests leaving in a question "what could be improved" (Turn 7). She justifies this suggestion by referring to past discussion she had earlier with the professor teaching the course (Turns 1, 11). In their study Staarman, et. al., (2004) called these references to past (classroom) discussion with the teacher implicit intertextual references.

The above described Excerpts 2 and 3 demonstrate how the local context provides continuity between different contexts. In the analyzed lesson the references to the past and future activities are typical justifications for decision-making and negotiation in the moment-to-moment interaction. It demonstrates how the participants' task frame crosses time and events outside the immediate perceptual context (see also Floriani's (1993) notion of intercontextuality). Local context can also be a concrete resource. The previously written version of the questionnaire serves as a main local context for the students. It provides a context for reference and for continuing the development of the ideas written earlier. In the immediate context it serves as a (written) co-text.

Socio-Cultural Context – Tools for Thinking and Acting

Both the immediate and local contexts are embedded in socio-cultural context. For example, writing, artifacts and rules of conversation (including co-textual referencing) are all socio-cultural constructs. Thus, in practice these different contexts are difficult to separate, but here they are differentiated for analytical purposes. Socio-cultural context in this study refers to the prior knowledge and experiences related to the task content at hand, but also more broadly to the values, norms and identities reflected and constructed through the discourse and activity.

Prior Knowledge

All previously described excerpts also reflect the socio-cultural context. Excerpt 1 demonstrates how the students draw on prior knowledge on 'rules of making research by questionnaire' in their discourse. Their prior knowledge both implicitly and explicitly stated in discussion indicates that in evaluative questionnaires you should prefer categories instead of open-questions (Excerpt 1, Turns 8-13). The justification for this is explicitly stated later in Excerpt 2 where Katrin says that "it's easier for us to do the statistics" (Turn 3). 'Rules of categorization' are implicitly referred (Excerpt 1, Turns 16, 18, 19, 24) and explicitly stated, such as "shall we agree five categories always?" (Excerpt 1, Turn 21), thus implicitly referring to a Likert-type scale. Katrin also differentiates between quantitative (implicit reference, Excerpt 2, Turn 3) and qualitative methods (explicit reference, Excerpt 2, Turn 5), referring to her knowledge on research activity. Thus, the students use their prior knowledge on 'doing research' in their discourse and activity. This framework, consisting of rules for making a questionnaire and procedural knowledge for doing research, can also be seen as previously constructed and a learned cultural model (Gee & Green, 1998) that the students draw on to guide their discourse and activity in the current situation. Thus, certain implicit rules which are made explicit through discourse guide student activity and enable progress in discussion (see Excerpts 1 and 2). This is seen, for example, in the progress the students make in their discussion in developing the categories and specifying them (Excerpt 1, Turns 13-24). The rule of categorization is further applied in the next excerpt where the students are discussing the making of an open question into a closed one:

Excerpt 4.
1   Katrin: *Which tools* do we have? [Immediate context – written text as co-text]
2   Eva: We *did it like this*, but I think it is too much. [Immediate/local context – referring to questionnaire, written text as co-text]
3   Katrin: Yeah.

4   Eva: 'Cause if we talk about *all the possible functions with these open questions*. [Immediate context – written text as co-text]

5   Katrin: You know what we could do… I have an idea if if we ask *what functions are you not using and why* then we could give *like three answers* and *one is like [other…* [Immediate context – written text and discussion as co-text; socio-cultural context – rules of categorization/knowledge of making a questionnaire]

6   Eva: *[other.* Yhy. [Immediate context – discussion as co-text; socio-cultural context – rules of categorization/knowledge of making a questionnaire]

7   Katrin: And here we could put for example, ymm… *I don't know about the function…*or *I don't know all the functions* or… [Immediate context – discussion as co-text; socio-cultural context – rules of categorization]

8   Eva: Yeah, ok, we can do that.

9   Katrin: And then we can also *integrate the one with the difficulties* and stuff. [Immediate context – earlier discussion as co-text (Excerpt 3, lines 4-7)] You know if we have like, I don't know *like six six categories*. [Immediate context – discussion as co-text; socio-cultural context – rules of categorization]

10   Eva: A-ha.

11   Katrin: *I don't know about tools, I have difficulties…* [Immediate context – discussion as co-text; socio-cultural context – rules of categorization]

12   Eva: A-ha.

In the above excerpt Eva criticizes their earlier draft, where they asked what tools/functions of the environment the users are not using and why (Turns 2, 4). The criticism concerns the "why" question, which is an open question in this version, and Eva thinks it makes the questionnaire perhaps either too long or difficult to complete: "I think it is too much" (Turn 2). Katrin then suggests categorization of the "why" question and starts to comment on possible categories (Turn 5). Thus, she draws on socio-cultural knowledge of (questionnaire) categorization and applies it again to this situation, where an open question is turned into a closed one. Students also suggest, voicing at the same time, a category "other" (Turns 5-6), which implies that they share prior knowledge of the practice of having a possible 'other' category in a questionnaire. By applying the rule of categorization Katrin is also able to integrate the open question which dealt with having difficulties - one which they turned down earlier - by turning it into a category (Turn 9).

According to Valleala (2006) knowledge construction and building shared understanding always involves building a new context, thus making something previously unknown familiar or, according to Stahl (2004), making tacit knowledge explicit, which can then become a context for a new object of discussion and its understanding. In the above excerpt and in Excerpt 1 student prior knowledge of making a questionnaire is tacit knowledge that is made explicit through the application of the rules it constitutes, and this creates a context for discussion and for developing the object (content) of discussion further.

Values, Norms and Identities

Some values and norms are also mediated through student discourse. In Excerpt 3 Katrin puts high emphasis on the professor's preferences concerning the questionnaire: "What is *more important* we have to use this one 'cause I think aa professor is really interested in that one" (Excerpt 3, Turn 11). Thus, when they negotiate what questions they leave in and what ones they take out, Katrin feels that the professor's preferences should exceed their own ("more important"). This signals certain norms, expectations and obligations in the student-teacher relationship and thus reflects socially valued ways of thinking and acting in the present context (Wells, 1999). It implies status differences where the professor carries strong authority over student preferences. This is also a good example of how through discourse Katrin not only reflects but also re-produces institutional norms and values of the community wherein she acts. Hence, this example also reflects identity applied in the situation. Katrin's discourse reflects that she identifies with her place in the student-teacher community. According to Wells (2007) identity construction is ongoing and occurs in the situated actions and discourses in which participants engage. In new situations one might apply multiple identities coming from various communities of practice whose values and scripts define our identities. In addition to the 'university student' identity reflected above, other identities are also mediated through the discourse. In the collaborative task the fact that the students have different nationalities - particularly that one student is native (German-speaking) and the other one non-native - influences from time to time to the students' activity and participatory roles. The learning environment to be evaluated is available only in German. Thus, when the students are exploring the web-based learning environment the non-native student has difficulties in interpreting it:

Excerpt 5:

1   Eva: What's *Überblick*? [Immediate context – written text in the web-based learning environment as co-text; socio-cultural context – German language]

2   Katrin: *General overview*. [Immediate context – discussion as co-text; socio-cultural context – prior knowledge of German language]

3   Eva: So, we don't have to write *this one* (points to the screen)? [Immediate context – written text as co-text]

4   Katrin: No, no, no.
     […]
5   Eva: What is *this* (points to the screen)? [Immediate context – written text as co-text]
6   Katrin: This is yy *working groups, you are in different working groups...* [Immediate context – discussion and written text as co-text; socio-cultural context – prior knowledge of German language]
7   Eva: Y-hy.
8   Katrin: Ok. Shall we write *Lernstudio?* [In English: Learning studio] [Immediate context – written text as co-text]
9   Eva: Do I have to write *these ones* (points to the screen)? [Immediate context – written text as co-text]
10   Katrin: No, *these are not tools*. [Immediate context – discussion and written text as co-text; socio-cultural context – prior knowledge of German language]
11   Eva: Okay.
     […]
12   Katrin: *Foren, Mail* [In English: Forums, Email] (reads from the laptop screen). Ok, maybe we just write *them* down. Ok, *Lernstudio, Infothek* [In English: Info-center]. Shall I write *because it's easier* (Katrin starts to write on the drafted questionnaire)? [Immediate context – written text as co-text; socio-cultural context – German-speaking identity]

Language is a vital part of a person's identity and plays a role in the construction of that identity. The above excerpt demonstrates how the non-German speaking student, Eva, arrives at an unequal position because she does not know the German language (Turns 1, 3, 5, 9). This also influences the participatory roles in the situation, where the German speaking student, Katrin, not only interprets the web-based learning environment, but also gives herself the writing task as well (Turn 12). Thus, the concrete resource (web-based learning environment) itself contributes to the assuming of a minor position for the non-German speaking student and to an unequal participation in the immediate context. However, the students possibly recognize this disadvantage through these and other experiences in using this particular online learning environment, and through identifying themselves as part of an international student group and community (socio-cultural context). This is demonstrated upon completion of the final questionnaire with the following statements: "I couldn't understand the interface as it was only available in German" and "The online environment should be available in other languages apart from German". Therefore, through the questionnaire and the (past) discourse it reflects students make an effort to change institutional practices they are part of in the study community.

Discussion

As Wells (1999) states, greater recognition should be given to the central and formative role of language in education. As this paper demonstrates, what should be stressed is, namely, the role of linguistic discourse in meaning making and mediating of knowledge, values and beliefs of the communities the students and teachers participate in and 'bring along' to new contexts and situations. While much of the work of analyzing collaboration in the classroom context or in virtual contexts has concentrated on structures or nature of talk from a 'productive discussion' perspective, less attention has been paid to discourse and the purposes it serves to accomplish.

The focus of this study was targeted especially to understanding how a student pair through their discourse was negotiating, interpreting and making sense of their context, and what resources (Linell, 1998) or aspects of situation (Gee & Green, 1998) were relevant in their collaborative task. The study used the means of discourse analysis (Gee & Green, 1998) to explore what contexts the students built in their collaborative task. With the help of the analysis the study was able to demonstrate how discourse both reflected and shaped what constituted knowing, doing and being in this particular classroom (Wenger, 1998).

The study revealed three different context types that were built and that characterized the students' working context. Student previous knowledge on making an evaluative questionnaire (socio-cultural context), as well as local context(s) in the form of earlier discussion with the professor, the draft questionnaire and the references to the future activities (based on scientific knowledge), all served as main resources that the students drew on in their immediate context, the main task of which in this analyzed lesson was to revise the previously drafted questionnaire. In the immediate context, the co-text, in the form of semiotic resources such as written text and earlier discussion, made up the shared context for reasoning and enabled collaborating in the task. Thus, the discourse both reflected and constructed the context in which it was used (Gee & Green, 1998).

This study demonstrated that in learning situations there are multiple immediate and mediated contexts that can have an affect on students' interpretations and meaning making in the situation. This means that in order to analyze collaborative learning we need to go beyond analyzing structures of talk separated from their contexts in order to also explore how socio-cultural aspects are manifested in students' activity (e.g. Black, 2007). This means using methodological tools that reveal how past, present and future are embedded in the interaction between students as they are engaged in shared activity.

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