

Rethinking Educational Ethnography

Researching on-line communities and interactions

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RETHINKING EDUCATIONAL ETHNOGRAPHY

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RETHINKING EDUCATIONAL ETHNOGRAPHY
Researching online communities and interactions
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Table of Contents

Educational ethnography in a multi-sited field Fernando Hernández-Hernández.....	1
Ethnography on IT-based learning contexts: A matter of blended methodology and blended learning Karen Borgnakke.....	5
Presenting a hybrid course design to make ethnography work: leveraging e-learning tools to complement physical presence in intercultural contexts Simone Schlichting-Artur.....	26
Creating a Virtual Community of Practice for PreService Teachers: The Virtual Fieldwork Sequence (VFS) Project at the Math Forum Wesley Shumar.....	38
“You do the Letters, I Take the Mouse.” Accounts of Situated Cognition and Cooperation Through ICT use in Classrooms Christoph Maeder.....	47
An ethnographic approach to researching students’ experiences of silence in university classes Fernando Hernández-Hernández & Rachel Fendler.....	54
Sketches for a conceptualization of dramatic autoethnography in educational research Delfim Paulo Ribeiro.....	65
Epistemological and methodological challenges in the field of research in education and digital culture Eliane Schlemmer, Daniel de Queiroz Lopes, Rosane Kreuzburg Molina.....	74
Rethinking Educational Ethnography: Researching on-line communities and interactions. Final remarks Juana M. Sancho Gil.....	82

Educational ethnography in a multi-sited field

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Rethinking educational ethnography

On 7 and 8 June, 2012, the second edition of the conference *Rethinking Educational Ethnography: Researching on-line communities and interactions* took place in Barcelona. On this occasion it was organized by the Centre for the Study of Change in Culture and Education (CECACE) and the Department of Educational Management, at the University of Barcelona, in collaboration with ECER Network 19. This conference forms part of a long-term discussion that began in Helsinki at ECER 2010, when participating researchers discussed emerging concerns about virtual ethnography and discovered a shared interest. In 2011 this debate gave rise to the first annual Rethinking Educational Ethnography conference, held at the Faculty of Psychology and Educational Sciences, University of Porto, and to a second gathering within the ECER Network 19 in Berlin. Our aim for the 2012 encounter was to build on the knowledge generated in previous meetings, in order to share and debate emergent practices in the field of virtual educational ethnography.

The conference seeks to encourage discussion on epistemological, methodological and theoretical perspectives. The event benefited from the contributions of researchers from different countries and hosted leading scholars on the subject.

The main objectives of this conference were:

- to allow conference participants to share their research and discuss current challenges, doubts and findings;
- to enhance our critical understanding of the term ‘virtual ethnography’, by exploring both the epistemological issues and methodological or ethical concerns that emerge when designing and undertaking educational ethnographies that intersect with new technologies;
- to identify publication opportunities for current research in this area;
- to discuss the possibilities of developing international collaborative research projects.

In order to transfer knowledge and generate new perspectives in the field, this conference encouraged both scholars and PhD students to present their research addressed one or several of the following issues:

- The expanded notion of “the field”; On-line / Off-line boundaries.
- Challenges and issues of studying virtual settings and/or communities, in particular those that relate to fieldwork or authorship, among others.
- The role of the ethnographer in online settings; new or shifting relationships between the ethnographer and research subject.
- Doing research collaboratively.
- The advantages and limits of using 'with' as a methodological stance.

A multi-sited field of educational ethnography

In the discussions on the foundations of a virtual educational ethnographic research, the notion of multi-sited ethnography (Coleman and Hellermann, 2011) seems relevant, both as a conceptual and methodological tool. Almost two decades ago, Marcus (1995) questioned the hegemonic conception of an ethnographic site, as “container of a particular set of social relations, which could be studied and possibly compared with the contents of other containers elsewhere” (Faizon, 2009: 1), by pointing out the notion of multi-sited ethnography. This approach is defined in terms of the study of social phenomena that cannot be accounted for by focusing on a single site.

From this approach, when we study educational experiences placed in or outside schools we transit, as Milne (2006) notes, through “the interplay between physical spaces and virtual spaces” (Sharpe, Beetham and De Freitas, 2010: xvii). In agreement with Milne, we are able to identify in educational ethnographical research formal physical spaces (classrooms and seminar rooms), physical social spaces (playgrounds), physical transition spaces (corridors), physical private spaces (students’ homes), virtual social spaces (Facebook, Dropbox, Googlesites, and so on). Something similar happens when we explore the social life outside school learning environments. In both cases, it seems clear that for any learning activity or school experience, teachers and learners or users “may combine or recombine various combinations of these types of spaces” (Sharpe, Beetham and De Freitas, 2010: xviii). These spaces configure as consequence, the multi-sites fields where our ethnographic research takes place.

The content of the publication

Seven contributions are presented in this publication, where, from different perspectives, and based on diverse cases, issues around the challenges and potentials of virtual ethnography in education are discussed.

Karen Borgnakke, from the University of Copenhagen, Denmark, discusses several ethnographic case studies carried out in IT-based learning contexts in upper secondary ‘IT-schools’. In terms of methodology, her challenge has been to confront classic ethnography with a late-modern school world loaded with new IT tools and references to teacher professionalization and school culture as well as references to youth culture. In terms of an empirical analysis of the IT-based learning practice, the challenge was to cope with formal learning as well as with non-formal learning situations. School case studies done during the period of reform in Denmark (2000 – 2010) show how the IT based strategies are challenging conventional strategies and how new concepts of blended learning are constructed to meet challenges from practical learning processes.

Simone Schlichting-Artur, from Drexel University, USA, explores the social life of an undergraduate course to address the often overlooked emotional, psychological, and intellectual needs of students undergoing international education experiences. The course employed online learning pedagogies and applied ethnographic methods in order to encourage students to explore the culture in their host countries and improve their intercultural communication skills. Methodologies are reviewed and the logistical obstacles encountered are acknowledged.

Wesley Shumar, also from Drexel University, gives a report based on a project at the Math Forum where an online course module is used to create a virtual portal between the Math Forum and several schools of education. Using ethnographic methods, his paper discusses the evaluation of this effort to create a virtual “portal” between two cultures. This paper has implications for ways the internet could be used in other educational situations where one is attempting to bridge distinct cultures and where those cultures are

geographically separated from one another.

Christoph Maeder, from Thurgau University of Teacher Education, Switzerland, discusses PC practice in action, based on a close reconstruction of observed practices between users and computers, and introduces an ever-recurring domain which he calls “situated repair work” (SRW). The SRW category as part of the handling of the interfaces of ICT equipment seems “natural” and he considers it relevant when electronic systems are used. From his perspective, everyone is expecting SRW to take place all the time and it is handled on the routine grounds of social practice. But the difficulties of handling physical interfaces, semantic challenges of understanding the virtual, and the properties of a machine that “can think but nevertheless makes mistakes constantly” blend into a kind of regularly emerging test for the participants. In his discussion, SRW offers access to the question of how we learn by the use of ICT in classrooms: it focuses the situated and interactive part of cognition as a joint production by man and machine.

Fernando Hernández-Hernández and Rachel Fendler, from the University of Barcelona, Spain, give an account of a collaborative research project conducted in the context of the class Arts-Based Research, which is part of the core curriculum of the Fine Arts degree at the University of Barcelona. The research takes form when students decide to learn to investigate... by doing research together. The group decides to focus their investigation on examining how they give meaning to the experiences of silence in university classes. This question opens a process of inquiry where stories, pictures, readings and discussions in the virtual campus converge, generating a set of evidences that the authors research ethnographically, exploring not only the question that drives the research, but the ways in which the process of inquiry was narrated.

Delfim Paulo Ribeiro, from the Escola Superior de Educação, Instituto Piaget, Portugal, contributes to the conceptualization of theoretical and methodological frames that inform, what he calls, *dramatic self-ethnography* in educational research. This approach pays attention to how the multiplication of the self into several others and the creation of avatars and virtual communities, as well as the development of dialogues based on performative writing encourage critical reflection on education. Unfolding into a multiplicity of identities fostered by a virtual world, a reflection of education is no longer self-centered and dialectic, but acknowledges the tensions and dilemmas that become more aesthetic than scientific.

Finally, Eliane Schlemmer, Daniel de Queiroz Lopes and Rosane Kreuzburg Molina, from the Universidade do Vale dos Sinos- UNISINOS, Brazil, debate about the epistemological and methodological challenges identified in their experience in advising Master and PhD students in the context of the Graduate Program in Education at their university. These challenges involve the construction of research objects and problems in the field of education and digital culture in contexts using digital technologies, such as: Virtual Learning Environments, Digital Social Networks and Virtual Digital Worlds in 3D. Establishing coherence between research object, problem and instruments, in the investigations of ethnographic designs, in processes of constructing valid academically and socially relevant knowledge has led to epistemological and methodological doubts, which they discuss. From their considerations of instruments, analytic processes and empirical fields emerge dimensions that have required thinking epistemologically and conceptually. In the sphere of these reflections, they build a series of relevant questions about the following issues: a) epistemological and methodological tensions involving ethnographic, virtual and digital concepts; b) players who are collaborators and researchers in digital education and culture – from where do the problems come? c) subject/groups immersed in the digital culture – who is in or part of digital culture? Can research be done from outside the digital environments? Based on these doubts, reflections and challenges, they believe that it is possible to re-think the term virtual, as demarcating an epistemological and methodological frontier in

ethnographic research of education and digital culture. They argue that the term digital is better to distinguish this frontier. Finally, they consider that the term *netnography* is better to distinguish a theoretical-methodological design from ethnographic research in education and digital culture.

Throughout these papers and in particular during the discussion that emerged during the conference, we have come to consider that, in the end, as Wittel (2000) has suggested, in ethnographic inquiry—as are people—“is on the move. It is moving away from "fields" as spatially defined localities towards socio-political locations, networks, and multi-sited approaches. And it is moving from physical spaces to digital spaces. This transformation seems to be necessary”. I hope this publication contributes to the debate about the possibilities and constraints of this displacement.

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Ethnography on IT-based learning contexts: A matter of blended methodology and blended learning

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Abstract

This paper takes the point of departure in ethnographic studies carried out in IT-based learning contexts. The comprehensive fieldwork and case studies on the upper secondary 'IT-schools' cover three organizational levels: The school management level, The colleague/teacher level, and The teaching and learning practice level. In terms of methodology, the challenge has been to confront classic ethnography with a late-modern school world loaded with new IT tools and references to teacher professionalization and school culture as well as references to youth culture. In terms of an empirical analysis of the IT-based learning practice, the challenge is to cope with formal learning as well as with non-formal learning situations. Against this background, school case studies done during the period of reform (2000 – 2010) show both how the IT based strategies is challenging conventional strategies and how new concepts of blended learning is constructed to meet challenges from the practical learning processes (Borgnakke 2007, 2012a).

Full text

This paper takes the point of departure in ethnographic studies carried out in IT-based learning contexts. The comprehensive fieldwork and case studies on the upper secondary 'IT-schools' cover three organizational levels: The school management level, The colleague/teacher level, and The teaching and learning practice level. In terms of methodology, the challenge has been to confront classic ethnography with a late-modern school world loaded with new IT tools and references to teacher professionalization and school culture as well as references to youth culture. In terms of an empirical analysis of the IT-based learning practice, the challenge is to cope with formal learning as well as with non-formal learning situations. Against this background, school case studies done during the period of reform (2000 – 2010) show both how the IT based strategies are challenging conventional strategies and how new concepts of blended learning are constructed to meet challenges from the practical learning processes (Borgnakke, 2007; 2012a).

My analysis shows that it is not only a matter of implementation of an already finished concept of blended learning. In a practical sense it is a matter of 'the didactical how' creating an innovative and context sensitive mix of online and off line situations and a mix of school subject related IT tools and learning methods. Analyses of the different organizational levels then show how the implementation of Learning Managements System, the development of homepages, websites, wikis and the use of PCs and laptops in the process relate to the development of school culture and innovative strategies. From the perspective of the case schools, observed and documented in a very demanding period of time, during reform, it is a matter of navigation between demands, needs and at the same time top-down and bottom-up strategies. As the former analysis shows (Borgnakke, 2011a) it is a matter of developing a performative school following demands from the reform directed top-down strategy as well as a matter of developing a school culture in which doing well and being well educated not only refer to the classic literacy and numeracy, but also to the late modern question of democracy and digital literacy. Regarding digital literacy and what I call *technacy* there is a critical approach embedded in the school cases. Technacy is namely to be regarded as a progressive alternative to the concept of classic literacy for 'The Educated'. From both an organizational and learner perspective, it means

sharpening the profile and creating modern literacy and numeracy with technacy. At the same time, a close-up analysis shows how the students create their own strategies as a new common space for interaction, communication and learning, or creating what I in my analysis have called the third learning space (Borgnakke 2012a:165).

The paper shows how these perspectives are challenging the research methodology and research strategies. To cover IT-based strategies, the ethnographic framework must be a blended methodology coping with the concrete spectra of IT-tools, constructions and systems like Learning Management Systems and social media, in addition to coping with classic participatory observation, interviews and material collections. The paper will provide the different contexts and voices for the blended framework, showing challenges related to the school culture and to both the meso- and micro-levels.

Background

Ethnographic research shows that the challenge is about the new largeness of scale in which IT strategies are embedded within the entire learning environment. For schools, IT as media and technology is the new sounding board for how to perform, how to learn and how to carry out organizational development. In this sense, my case studies show as one of the important empirical findings the tendency to combine pedagogical and organizational development (Borgnakke, 2011).

Furthermore, while from the schools' perspective this is also a matter of developing a school culture that refers to the classic literacy and numeracy, as well as referring to new life skills such as media literacy or technacy, you recognize a challenge for both the ethnographer and for the field of practice. The challenge is similar to the question: What happens when IT becomes a "natural" part of everyday life and what happens when technacy becomes a part of professional school life?

If this challenge to the process of ethnography is summarized, there will of course be more than one answer to the question. But to start, there is one important answer that needs to be highlighted as a result of fieldwork done in the IT schools being focused on. The answer to "what happens" seems to be based on a new late-modern fact, namely that the perspective is related not to a single class, teacher or school subject but to the school as a whole, thereby being related to organizational development. Referring to the school as a whole will at the same time and in a concrete manner refer to online and offline collected school materials, interviews and observations showing that:

- The leader level relates to the question of how to perform technacy, while regarding the question as a matter of school culture and innovative strategies rather than simply a matter of administration or management. In terms of technology, the LMS system is regarded as challenged by both pedagogical approaches and by practical use from different groups.
- The colleague level regards the same question, but as a matter of professional pedagogical acting. Here, the LMS system and the entire mix of internet- and web-based resources are challenged through the process of planning, teaching and evaluation.
- At the learning practice level and in "the inner work of the classroom", both teachers and groups of students regard that learning "with technacy" is related to scholastic culture as well as to youth culture and non-formal learning. Here, the entire MIX of media and technology, including the students' experiences with iPhones, YouTube, Facebook, etc. will be challenging their learning process.

In terms of methodology, the challenge follows the field and represents further the necessity to rethink what we, inspired by Martyn Hammersley, can describe as ecological validity (Hammersley & Atkinson, 1983; Borgnakke, 1996). Hammersley presented a kind of rethinking in the programmatic article *Ethnography: problems and prospects* published in the first issue of the journal *Ethnography and Education* (Hammersley, 2006). Hammersley reviewed current difficult issues like how ethnographers define boundaries and how they determine the context, and how ethnography can be virtual rather than actual. Concerning the last mentioned question about virtual ethnography Hammersley concentrated on the question that arise, like:

“ (...) does ethnography depend upon the physical presence of the ethnographer in the midst of the people being studied?” (Hammersley 2006:14).

Next, the question was further elaborated by Hammersley stressing that:

“This is not just a methodological but also a theoretical issue: are there online cultures that can be studied by internet ethnographers? Or can we only understand what happens online in the context of the ordinary/offline/lives of the people who produce blogs, put messages on message boards, participate in chat rooms, set up their own websites, and so on?” (Hammersley 2006).

I can follow both the range of difficult issues and the added range of open ended questions and there will be no doubt about the need for rethinking the classic approaches to culture studies if we are studying online cultures. But nevertheless I think that Hammersley pays too little attention to the fact that most of the new settings are not exclusively online but a blended mix of online and offline situations. Further, Hammersley does not seem to do the bridge building between the classic and the new approaches and he does not seem to rethink the basic principles about ecological validity in light of the new type of online/offline collected data. On this background I prefer to go back to the earlier presentation of ethnographic principles. I also prefer to rethink the principle of ecological validity in the light of the new mix. For a broader perspective I prefer to refer to the situation where the mediatized everyday culture and the mediatized learning culture, as stressed by media researcher (Hjarvard, 2008), will be described as ongoing series of online and offline activities. To summarize the principle about ecological validity closer to the empirical field, namely the IT-based learning context, it means that:

The data collection must be regarded as a mix and must be reflected in how it mirrors IT-based strategies and the process of implementation in the field and at the different schools levels, parties, cases, dilemmas. Further ‘all components, voices and contradictions’ are already embedded in the practical pattern of artefacts, images, written materials, spoken words... situated in the digital process or collected by the fieldworker directly involved in the practical process. Basically this means that the ethnographic framework will be a mix of methods and voices and will be blended to the same degree as the field of practice, as blended methodology and blended learning go together.

If this statement and experience ‘blended to the same degree as the field of practice’ is a kind of conclusion, the following concrete examples will elaborate on the fieldwork related to the case studies and various school levels. Let me therefore start with an overview given in the map below (Figure 1).

Fieldwork and case studies

Mapping the area and the learning context, material collections, online/offline observations and interviews at

- The management level
- The colleague level teacher/teacher
- The teaching and learning practice level ... covering the process, IT-based strategies and tools shifting between online/offline

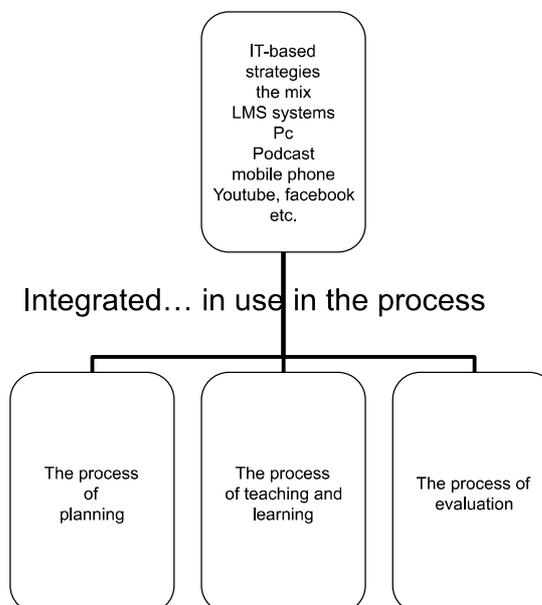


Figure 1: Fieldwork and case studies

There are important details in the ethnographic mapping of the IT-based context of learning. But the most important factors and empirical findings are related to: 1) the LMS system, in my case schools this was Lectio, Fronter and Moodle, 2) what is actually used and what is not, and 3) what is officially allowed and recommended and what is not (what is not recommended or even maybe forbidden during class hours, such as for example Facebook).

Related to the ethnographic framework, the empirical collections having the greatest impact are still based on the classic combination of observation and interview, and are still based on classic approaches and long-term fieldwork (Borgnakke, 2010; 2013). It is important to stress that the period of observation in the learning context and the close up studies in the digital classroom still are planned as day-to-day observation following original (school) time. In this sense the observation schedule still can be described in phases with week observations and characteristic shifts between a teacher point of view and a student point of view. Further details related to the classic day-to-day framework can be followed in the article *Études ethnographiques de pédagogie et d'apprentissage: Défis postmodernes* (Borgnakke, 2010). But even if we have the classic mix of field materials we at the same time have the important new IT- and media born material from the field. Referring to the perspective “the school as a whole”, the new material first and foremost could be the schools’ websites and homepages. The homepage is the new genre and ideal typical for what we, inspired by Schein’s concepts, can describe as face values (Schein, 2004). Another genre addition to be mentioned is a collection of what we called the schools’ IT-CV (See the Projectportals Borgnakke, 2009; Laugesen, 2012). In the academic and professional world CV, curriculum vitae, is legendary as a genre and as a document.

Today we can add that schools can have an IT-CV with a summary of the schools IT-performativity.

To put the empirical material on the IT-school ‘as a whole’ in perspective it is important to relate to organizational and cultural concepts. Concepts from Schein have among others been recognized in research of the organizational culture in the field of upper secondary schools. But inspiration is also coming from research projects in teacher training and nursing education with concepts of the organizational culture influenced by technucation (Søndergaard & Hasse, 2012). Furthermore a project on attitudes to ICT in nursing education presents an inspiring Bourdieu conceptualizing to analyse ‘the construction of the ICT-field’ and next analyse the field's construction of types of nursing students attitude and their ‘ICT habitus and ICT capital’ (Kolbæk, 2013).

Aimed at the IT-based organizational culture different concepts can be of empirical inspiration to analyse the field of practice and to understand the culture, the capital and the habitus. But still the point to be stressed will be mapping the organizational culture and ‘the school as a whole’, keeping the ecological validity of the materials in mind.

Following the aforementioned genre and mix of materials mapping the IT-based learning context starts perhaps in the virtual world. But after that it is followed by classic school observation and interviews with leaders and teachers and then by classroom observations and interviews with students. The new point is the baseline: the fieldworker will like teachers and students on a daily basis being online, offline and participate in series of activities describes as blended learning surrounded by IT and media. Compared with a rich and large empirical collection, any single examples, including those given below, will be limited. Even so, each example will illustrate the mix characteristic for the respective school level and parties and voices referring to the IT-based learning environment. My examples will therefore mirror the different level and voices given in a row related to firstly leader teams, secondly to teacher teams, and thirdly to groups of students.

Surrounded by IT and media – voices among leaders

Starting with the leader level, the example refers to one of the case studies at a newly built school in a new area of the capital. School observation and the school’s IT-CV show that this type of school represents what it means to be loaded with IT and new media “from cellar to ceilings”. And as the leader team, which is very much involved in the process of constructing the new school, expressed in an interview just before the opening event, the school will be “well-driven” and IT-covered “all over the cabin”. At the same time one of the leader team members gave an almost state-of-the-art description:

It has developed in the right direction, so a lot of things you can actually just do – if you have the basic ICT tools in the right places. So everything according to network and machines we already have. The fact that we have so much of it makes us different. I have participated in the start of those kinds of experiments before, and previously you needed to think a lot (...) Now you just need to state the fact: Is there wireless covering all over the cabin? There is. And is there the needed network facilities? When you have a knowledge platform like ours – namely Fronter – then you are almost well-driven. You can do what you need to do. So the question about what happens (...) – in a way it is already happening (...) if you are surrounded by the wireless network and surrounded by network facilities in terms of a knowledge platform (...) then you are in such good shape that you can qualify those things that the external world demands. (Interview with leader team, Borgnakke, 2011)

For the purpose of the analysis, the interesting point of course is that the state-of-the-art is given as a techno culture, but it is also followed by new and interesting consequences. When all the parties are surrounded by IT, IT in itself is no longer in focus. For the case analyses, the point is that being “surrounded by IT and new media” is the new background and you can “see” and “hear” how much IT strategies have already had an impact on the culture. At the leader level, the IT strategies are created and constructed as management tools, but by using LMS on a daily basis the IT strategies are also already a part of the doing, the language, the interacting and the networking. Altogether, the leader team and the repertoire of professional doing are demonstrating what blended organisational learning and what techno-culture and technacy in a school context means. Further empirical details about the consequences were given in the article among professional idealist and pragmatists – case analysis from the field of upper secondary school (Borgnakke, 2011). Related to that I want to stress that the mapping and the interview also reveal another picture and show the newest dilemma and risk zone, namely that technacy, together with a lack of literacy and democracy, can be risky business. As a result, there can be a lack of reflective pedagogical culture.

Against this background, I can recall another of the IT school cases. This school is placed in a suburb characterized as a low-income area, and is characterized as a school with 40% of the students having an ethnic background other than Danish. The school is “new” so to speak in the field of upper secondary high culture and scholastic learning. But in terms of pedagogical problem consciousness and development work the school is very experienced, and for the school the development of IT-based strategies that build technacy is regarded as a creative alternative to classic literacy (Borgnakke, 2007; 2012a).

According to the head of the school, the pedagogical challenge is that all school levels are to be looked upon as being “in practical transition” and not occupied in “fancy experiments”, but rather in “everyday school life and experience”. As the head of the school says:

We no longer take part in those huge and fancy experiments. It is more important for us that we are involved in “the new tendencies” like IT learning on an everyday basis and in ordinary conditions.

For the experienced school, clarifying “the new tendencies” and “the ordinary conditions” are all part of an internal enhancing of quality, trying to do on-the-job training and colleague supervision instead of participating in fancy conferences and seminars. At this school, ordinary conditions are also a kind of stabilizing of the IT classes as permanent part of the educational setting and not as a part of a fancy experiment.

For the ethnographic mapping, the point is that school visits, observation and conversations with the leader team are all important. But in the process it became very clear how and when the classic observation and interview were already a part of the IT-based doings and ordinary conditions. Firstly, the fieldworker gets a password to the LMS system and is thus already located as a school member. Furthermore, you realize that the important storytelling or school narratives are already an expression of the integrated IT tools and the mix of media. And lastly, you realize that “all materials” refer to multi-modality and to the ongoing use of PDA (like the leader team), mobile phones (like the students), in addition with “going on the intra net and Internet” where the routine with the involved parties will be online and offline. To summarize in terms of meaning, the technical culture means that the leader team represents the culture, does the culture and reflects the culture. This self-reflection can be critical (as with the above mentioned critique of “fancy experiments”) as well as being pointed out in the next innovative step, like with the third of the case schools. At the start,

the school was profiled as an upper secondary school with sports activities at a high level, but with an increasing use of IT during its first years, thus reflecting a strategy and profile in change. For this school, the next step of innovation was to strengthen its IT profile as “the ordinary condition” for both teachers and students. For all three of the IT case schools, the mapping shows that the question of meaning provoked the question of the ordinary conditions for the process of teaching, learning and evaluation. In this sense, the case study and analysis show the integration of an IT-based strategy with consequences for both teaching- and evaluation strategies that are formative as well as summative (see the ProjectPortal, Borgnakke, 2009 - 2011).

For the ethnographic framework still interested in rethinking the classic need for covering “the inner world of the classroom” (Borgnakke, 1996; 2013), it is important to study and document the how-question, such as the question: how are the conventional teacher-directed teaching strategies challenged and how are the teacher-student interaction and communication patterns challenged in practice. Next, the special interest is to cover the new routine related to the Digital Classroom and its settings, observed as blended learning and related to interaction and situations in which you are constantly online and offline. In the article *Challenges for the Next Generation in Upper Secondary School: Between Literacy, Numeracy and Technacy* (Borgnakke, 2012a) I give an empirical analytical overview followed by a close up analysis of classes in Danish language and literature (3.grade). Placed inside the classroom the analysis focuses on how the new mix is constructed like a blended strategy, where we can see how the teacher use the whole spectra of ideal type from the classic lecture, teacher dominated text discussion to student directed workshop and project work. Further following the perspective of the students and learners we can recognise the blended strategy for learning. Referring to the IT-baseline we can, literally speaking, see what blended learning means in terms of shift between computers, internet use, text-book, oral discussion, games and mobile phones -used in official and non-official versions of course. But let me leave the important details and summarize the main statement, namely that the IT conditions and the daily routine must be regarded in light of both the new digital classroom, the classic classroom and the basic component related to the classic Didactic Triangle.

In light of the classroom and the four components

When IT tools are integrated into the ordinary school condition, close-up analysis mirrors not only the complex situation but also how the IT tools are related to what I conceptualise as the four basic components of the classroom setting. The analytic model is developed after the classic Didactic Triangle (see Borgnakke, 1996vol1: 89). Related to current research it is inspiring to see the interest for the didactic triangle not least in the research in math didactics and computer science (see Berglund & Lister, 2010). But in my case it is of importance to stress that the model from the very start was aimed not at a single school subject, but rather aimed at the whole complex of empirical material analysing classroom results. I am interested in the basic structure and patterns of communication and interaction in a classroom to clarify the impact from the IT-based strategies. But realising that the school subject and the didactical approach need to be replaced it is important to refer to the origin in terms of classic didactic concepts known from Wolfgang Klafki. Further it is important to combine old school Klafki with concepts of didactical professionalization developed by Erling Lars Dale (see Klafki, 2002; Dale, 1989). Hereby we can recall firstly the broader perspective and the critical didactic approach in my case leading to analysis of life skills as technacy as didactic categories crossing boundaries in the scientific landscape (from literacy to numeracy). Secondly we can recall the specific reason, namely the interest for empirical research on the interactive and communicative patterns in

‘the inner work of the class room’, such as: the inner work of the digital classroom. Thirdly we can recall that the IT tools in practical use seems to be divided into two areas of the classroom, namely the teacher’s area and the student/learner area. Next, and as illustrated further below, the mapping of classroom situations shows how IT is related to the components in the process of practical use: a) “Teacher”, constructing the curriculum and the syllabus, related next to “the school subject” and/or related to the component, b) “Student”, “situation”, students activities and the common process.

IT & the four components

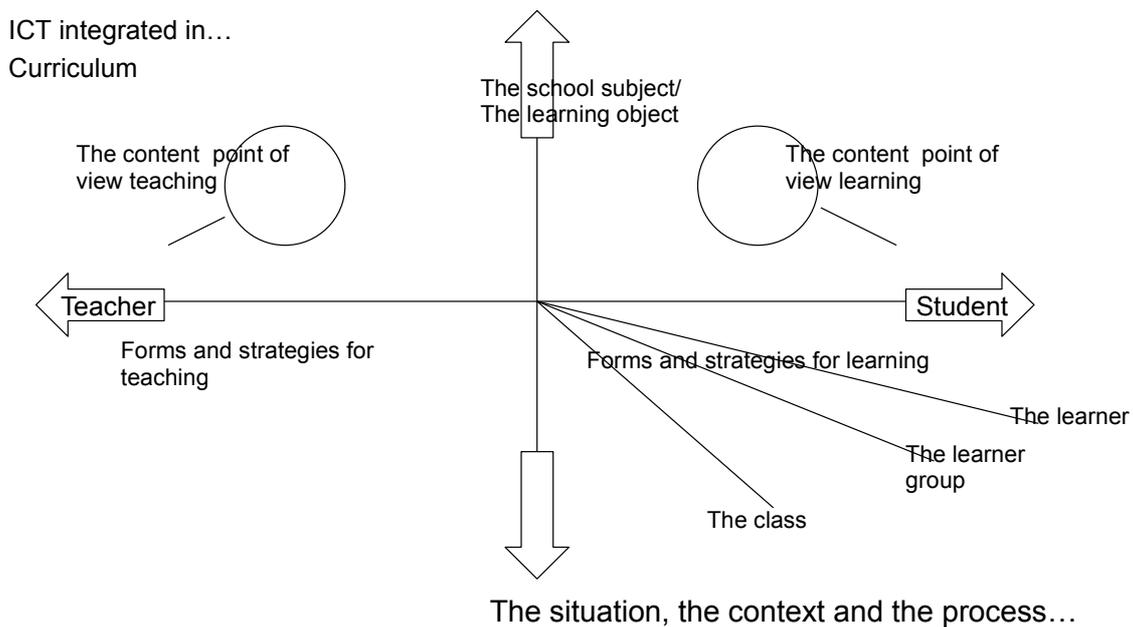


Figure 2: The model, originally from Borgnakke, 2007:31

First sharpening the analysis of “the teacher”, the observations show how teachers navigate in the LMS virtual classroom, as well as in face-to-face interaction, by blended strategies and shifting roles. Online communication, white screens, internet resources and texts such as PDF files are blended with conventional textbooks, blackboards, pen and paper work and face-to-face discussions. As shown in the close up analysis from the experienced school, called The A-school, the teachers use the blended strategies to make changes in the traditional patterns, moving from teacher-directed teaching to student-directed learning. And as interviews with the get “a kick out of ut”, as the next example will stress.

Professional didactical strategies and voices - among experienced teachers

A-school teachers in Math and Danish allocated the 3rd grade classes are experienced, in the sense that they have participated in the history of school development, being at the forefront as innovators, including being a part of the first IT classes. As interview shows, these teachers talk about the work with the class in professional, didactical and experienced terms, but also in very enthusiastic terms, recalling the class as a

different “technologically smart and motivated” group. The teacher also confirms that the challenge is a matter of didactics, in which Danish as a school subject is challenged by literacy and technacy. Moreover, the teacher confirms that it is a matter of pedagogical practice and interaction between the teacher and students. As the Danish teacher said, “I got a ‘kick’ when I realized that the centre was moving and shifting from ‘the teacher as the permanent centre’ to ‘a space out in the classroom’”. For her, it was the discovery that “there were always more people in the room who had something of relevance to contribute” and that “the working in turn shifts from being the teacher to being the students” (Borgnakke, 2012a).

For the ethnographic exploration of the inner world of classrooms, the observations and the teacher’s description is an empirical reference to the basic structure already known in the research literature as classroom research (see Sahlstrøm & Lindblad, 2003; Klette, 2007; Olga Dysthe, 1996). Related to the analysis of the digital classroom both the reference to classroom research and to the experienced teachers voice are important for understanding the didactical and professionalised version of IT-based strategies. When teachers use personal computers, the Learning Managements System and the Internet, or when they create a Power Point or Podcast, they are not only using IT tools but also designing the space for teaching interaction and communication in the classroom. And in doing this as a part of the professional activity, classrooms observations and analysis shows blended learning as a part of a strategic move, namely from teacher-directed learning to student-directed working and learning.

In close up analysis (Borgnakke, 2012a: 141-155) we recognize how the process works for the experienced teachers and follow how the teachers functions are shifting. We can see the teacher in action as the classroom teacher, giving lectures, and as the IT-process coordinator, managing the process of teaching and learning. But we also can hear the teacher giving the classic lecture in short form before moving to ‘the main text of the day’ (in the analysis it is the famous tales from Hans Christian Andersen). In this shifting we also recognize the driving forces in using the new mix and technacy to modernize the conventional literacy as high culture. As mentioned the key point is that the new mix and shifting teacher functions include a move from teacher- to student-centred interactions. Further the point is that a new structure or a strategy is observed. I named the strategy CTMRT: Common but Teacher Managed Reconstruction of the Text. The analytical point is that this new strategy can be related to the communicative patterns and routines known from classic empirical studies of the conventional classroom (Adams & Biddle, 1970; Bellack, Kliebard, Hyman, Smith, 1966). The strategy depends, at the same time, on the context and soundboard from the school subject Danish, and also from the focus on literacy. I also recognized this same strategy in use in the history class. The important characteristics of this strategy are: 1. Establishing a common point of departure as a text that has a concrete starting point; 2. The process of the reconstruction and interpretation starts with the teacher as the word manager; 3. Contributions from the students involved in an open process of interpretation, concentrated on the text levels, dimensions, and possibilities for interpretation.

The interesting part is how the text, and not the teacher, is functioning as the point of departure, thus becoming both the scholastic and pedagogical rallying point. With respect to both the discourse and the interaction, we can see how the progression in question–answer sequences works as a play between *The* text’s narratives and the teachers and students interpretations. The interesting points in this CTMRT strategy is the impact on the teacher–student interactions, as well as on the way students participate in the act of literacy and technacy. So far, we can note how the experienced teacher conceptualize this as a “didactical challenge,” and note how the centre moving “from the teacher as the permanent centre, to a place out in the

space,” is going on in the inner work of the digital classroom.

Further, according to the experienced teachers, we also need a reference for the pedagogical impact in terms of learning workplaces. For example, the teachers refer to writing workplaces, where the students work with the computer as a type writer with embedded extra resources as they train with the writing techniques throughout the process, i.e. writing a draft – electronic teacher feedback directly onto the document – writing a second draft and working with new versions. The teachers also refer to counting workplaces, where the learning workplace in the observed classes goes together with the programme MathCad and with developing IT tools, which are enhanced with a Wiki, for example.

Through the teacher’s description and pedagogical discourse we are close to the concepts of workplaces, both in terms of school subjects and gaining literacy, numeracy and technacy, as well as in terms of non-formal learning and learning in practice, referring to Danish progressive pedagogical traditions and to concepts rooted in John Dewey’s *Learning by doing*. In the article *Ethnographic Studies and Analysis of a Recurrent Theme: “learning by doing”* (Borgnakke, 2004) I recalled the tradition and showed the current connections between project based learning and ideas and principles behind the IT schools project. But at the same time we realised the new tendencies and terms like ‘innovation and creativity’ especially in connection with the business oriented education projects (Madsen & Svejgaard, 2007). Having done fieldwork in progressive learning contexts, it is always of empirical interest to pay attention to the discourse about the pedagogical direction and inspiration. And doing fieldwork in IT schools is, in many ways, to be in reform-friendly and progressive contexts, but with a specific sign of being in late-modern school culture marked as techno culture. The workplace and learning context by now is under Innovation & Learning headlines combined with approaches from the social constructivism. The main practical point is that to teach and work with IT and integrated new media is to integrate IT into the very act of teaching and learning. Expressed in relation to the map, the very act in the process mirrors how the process of teaching in itself shifts from a teacher-directed work area (the left side of the map) to the student-directed work area (the right side of the map). Moving to this side of the map, to the learner and to the student’s own strategies we can pinpoint the empirical characteristics. We can also recall, for empirical reasons, the almost classic conceptualization of surface and deep approaches to learning (Biggs & Tang, 2007; Marton & Saljö, 1976; Ramsden, 1998).

Recalling approaches to learning strategies

As shown in the school cases (Borgnakke 2012a: 155) the concept of surface approaches can be clearly recognized in the upper secondary learning context and in a concrete manner be pinpointed as conventional orientation toward curriculum and assignments, where students confine themselves to short answers, superficial text reproduction, and not moving beyond the levels of pure description. Moreover, the deep approaches can be recognized as absent when the teacher criticizes the missing analysis, but at present when the student gets feedback for showing good interpretation skills, and giving the text a close-up analysis, and so on. In this sense, it corresponds with what teachers note as the good assignment having three levels or dimensions (description, analysis, perspective). In context it is illustrating how progression in learning and Levels 2 (analysis) and 3 (perspective) demand deep strategies. On this background I have contributed to further description of the impact for the IT-classes and for the students gendered strategies. Referring to observed tendencies it will be the girls who demonstrate strategies closest to these deep approaches, and the boys who are closest to the superficial approaches. That said, it must be emphasized that we need to go back to the point from ethnographic research in learning processes with respect to the insight into the milestone

and course of learning (Borgnakke, 1996; 1999a). In this paper, I confirm my self to the main point that the students develop their own strategies, both in a subcultural sense as counter strategies, and in an official sense.

In my former analysis, I refer to a diverse background according to subjects, levels, gender, and age. For the empirical overview, the point is that the analysis is coping with strategies recognized in different learning contexts as the progressive strategy being close to deep approaches. At the same time I recognized the dilemma between surface and deep approaches as a challenge for the students' choice of strategy. Related to the observed learning context the strategies and challenges were recognized as:

- *Project-oriented strategies* with the challenge related to the dilemma between teacher-directed topic-orientation and student-directed problem-oriented strategies. (Overviews and close up analysis is given in Borgnakke, 1996: 564 -600.)
- *Experienced-based strategies* as a gendered strategy, with the challenge related to dilemmas between gender, age, life skills, life experience, and conventional academic scholastic learning. (See Borgnakke 1996: 621-637.)
- *The profession-oriented strategies* with the challenge related to the dilemma between professional learning in practice and scholastic learning. (Close up analysis is given in Borgnakke, 2004.)
- *The IT-based and blended strategies* with the challenge related to the dilemma between surface and deep approaches, conventional scholastic learning and project learning, and formal and nonformal learning. (For overviews and close up analysis, see Borgnakke, 2007; 2012a.)

On this stipulated empirical background, the observations in IT classes must be described as a mix of strategies. The students' strategies have been identified as a mix of all the aforementioned strategies. Alternatively, you could define these mixed or blended, second-generation strategies, as a combination of project- and problem-based learning. Further and inspired by Jean Lave and Etienne Wenger (Lave & Wenger 1991), we can conceptualize the students as the newcomer and old-timer strategies (the 1.g students' strategies and the 3.g students strategies). Furthermore, we can identify their IT-based strategies as both project- and problem-oriented. Also, we can recognize several nuances connected to these deep versus superficial approaches. The 3.g students in the observations, by contrast, are recognized as old-timers, and as very experienced media users. As the IT nerds, boys primarily, talk about their strategies and great experience, their familiarity with strategies that connect to the nonscholastic learning context becomes very clear.

Given these general patterns, there are nuances both in the analysis of the IT classes, and the students' learning strategies. But summarizing the strategies it is recognized that the integration of IT becomes an important element in the process of changing strategies for the everyday perspective. The laptop, for example, becomes everyone's everyday tool in the learning environment. Furthermore, with respect to project work as an alternative learning strategy, my analysis shows how both the teachers and students create new possibilities combining IT strategies with project strategies. At the same time it reveals this new IT-driven genre, and the range of student productions; this includes PowerPoint presentations, Internet newspapers, and Web sites that show a combination of both the private and youth cultural genres.

In this practical context we can identify how both the students' strategies and the challenges are related to the

major challenge and question about how technacy as an everyday part of the scholastic culture can benefit from the students' own skills and youth culture (Borgnakke, 2012b).

Moving to this side of the learning issues raised, my last examples can be given with a focus on every day culture and the students' voices and activities.

IT and everyday culture – the paradox

Doing fieldwork in the IT-schools learning contexts is to be in an area with a high score on the IT-CV, with a lot of IT tools and with interest for the newest system or single tool. I could refer to observed discussion among leaders and teachers about the LMS system, discussing Lectio, Fronter, Moodle or PDA, discussing their use in school subjects such as Biology, Geography or Social Sciences as well as the use of podcast, iPhones and iPads, discussing how early and how often it should be used. Compared with the IT-schools enthusiasm, research on the usefulness in the learning context can minimize the question. Both Danish reports referring to IT-tools in general and report on the use of specific tools, like for example the PDA, are claiming that the focused IT-tools were surprisingly unused (Drotner, 2009; Laugesen, 2009). There is a similar finding in case studies of e-learning in the hospital sector, which showed how e-learning could be talked about as a new benefit, though one without any remarkable use in practice (Brink, 2010). If we refer to a broader spectrum and refer to international reports related to initiatives like the so called one-to-one programs (see Greaves and Hayes, 2008; 2010) there will be similar findings. Currently the conclusion seem to be that in research we do not find the empirical evidence for enhancing learning in terms of measured improvement and skills. Of course it is thought provoking that the effect of 'IT & learning' concepts cannot be put on clear statistics clarifying the effect or the cost-benefit analysis. But these kinds of trouble also refers to the problematic aspects of the concept and the debate on IT & Learning. In the debate we can further see how the reference to the use (and non-use) goes together with statements from experts having participated in the field for years. Having experienced different revolutions and waves in technology, there is almost a saying in education research: 'Remember it is not a question of IT in itself, it is a matter of how we use it' to quote one of the experienced Danish researchers, directing a project about new strategies for IT-based and net-mediated teaching, Helle Mathiasen (Mathiasen, 2012).

As stressed above when reports document "surprisingly little use", "no significant enhancing" or reminds us "IT is only a tool" we just can agree with statements and analysis. But at a specific point I do not find the former formulation of the situation and main question satisfying. Looking at the students of today we recognize how laptops, smartphones and the Internet have all become "everyone's everyday tool". If a report can point to "surprisingly little use" just a view on kids every day behaviour will point to an iPad-generation, called the i-generation, and point to technology and media in use "24/7". This paradox needs further exploration. In this article I want to give three simple examples to illustrate the situation and the basic reference to the late-modern life world:

The first example refers to a visit at the University of California, Berkeley, in 2009. During the stay I was able to visit research centres, I interviewed research groups, I did some observations in classes talked to teachers and students and I got a very vivid impression of how Berkeley Campus was dealing with our common themes and issues related to IT & Learning. But the picture and the story having most impression was not given in an interview or given by a view in a classroom. It was rather a view on the main street and the feeling of *the new fact that all streets, all cafes, all classrooms, i.e. the entire campus, was to be looked*

at as walking, sitting, talking bodies and people with a laptop in front or under their arm. In concluding terms it meant that in February, 2009, every visible ‘walking-on-the-street-student’ had a computer. In this sense the street view was massive and confirms the new trend among students – they are living with and through the personal computer. PCs are a part of the social body and body language. My second example stresses this aspect as a student experience. I interviewed one of the girls back in the A-school and IT-classes, where the school had given every student a computer as “personal property” for the three years. I asked the 1st grade girl to give me a description of what the daily use of the computer meant for her. She was struggling with the answer and I tried to help with: “Is it like the school bag where you have all the school stuff and things for the day?” She looked at me and said, “No no no, it’s much more, I have my whole life in there”, pointing to her computer. If one claims to have ‘my whole life’ in a PC we feel that it is serious business.

The third example is very fresh and is about a Danish compulsory school having decided that every student from Grades 3 – 9 will be given iPads for school use. The school and the involved teachers have not yet evaluated the outcomes of the first year. Therefore the answer to my question about results was the hesitant “We are not able to document but it seems that the group of teachers after having a year to get use to the iPad project starts to feel OK”. But when I asked, “and what about the kids?” there was no hesitating. The answer was short and quickly “The kids are exited, they just love it”.

The examples make the new life conditions and the embedded paradoxes clearer. There is not yet an answer, but different strategies, voices and mostly open-ended questions. If computers, and today iPhones and opads, are a part of the social body and language it means that the ongoing ethnographic mapping of the field must pay attention to how the students are acting surrounded by technology and media and for a period of time occupied by social media “all the time”. But you also need to pay attention to the performative site of the story. When you enter the school area and classrooms you see the new types of performances and collections of students’ production in a concrete manner, such as for example Power Point collections, internet newspapers, websites and podcasts, which are constantly combined with a more private and youth-oriented cultural genre.

For the analysis of the student’s performance, basic contrasting concepts such as desire/duty, play/learning, leisure (“for leisure use”) / school (“for school use) are recalled. As stressed in the next and last example the interesting part is that when we are giving voice to the students the students refer to the IT-based activities much more than just an activity.

Voices among students

When I talked to the IT-school students it was a surprise that they often insist to go to the baseline, referring to their entire school life. For example one of the students from the A-school offered me this summary in a long conversation:

It is also about the kind of feeling, where you want to go to school. I enjoy my time in the school more when we, as in the IT classes, have our own computers. It is more fun, pure and simple.

For students, who have been in scholastic cultures and school settings their entire lives and then all of a sudden start enjoying their school time more, the analysis of “the use of computers in schools” must pay attention to the new fact that IT tools are much more than a matter of LMS systems and e-learning products. At the same time, there is a revolution going on in the classroom. In my analysis of the A-school, I

highlighted an interview with three boys from the 3rd grade because they clarified what the revolution was all about starting with Mohammed saying:

(...) we did not use computers in the comprehensive school (folkeskolen in Danish) so I did not know anything about it. But I got interested in the IT class because something new should happen. I understand that “the new” shall especially be located at a class level and as an improvement of the teaching and learning environment.

As Mohammed also says, “There will be more peace. One can be drawn to the computer if there is something boring in the teaching situation. In ‘Folkeskolen’ you would just have disturbed the other students. And then you can actually make something of relevance (of course you can also play cards), with things like assignments, searching the Internet until you are ready again.

Frederik adds: “Yeah you can withdraw and let others come to words in the class discussion”.

I was surprised by the articulation. I ask them to elaborate and confirm that they actually mean that the class environment in particular is better with the existence of laptops. They confirm this. Later on, Janus gives a further confirmation: “Yes, what is revolutionized is not one’s own preparation at home, but the lessons and the time spent in the classroom.” In this respect, I got the impression of the main answer: “It is more fun, more bearable and better spending time in school with the laptop than without it” (cit. field notes, int. 3rd grade Borgnakke, 2007: 59).

According to these boys, it is more fruitful to acquire academic skills such as literacy and numeracy with technacy. Here, the boys add both an important aspect to the reflection and a concrete question: Will the process of learning and gaining literacy and numeracy in the future be with technacy as the sounding board? If so, technacy is to be regarded as being integrated into the learning process and into the school culture, rather than being related to a single tool or single school subject. The same goes for the question about concepts of life skills. My analysis show technacy as a part of the life skills circle (Borgnakke, 2011).

When ethnographic fieldwork are giving voice to students there will always be a gender aspect, as well as aspects concerning social and ethnic background. In my analysis I am shifting between giving gender and ethnicity categories attention and the opposite (meaning no special attention), following the field and the actors observed. But related to the question of literacy and technacy, there is a special tendency to be mentioned. At one level you can observe that both girls and boys as young kids using social media are eager to: 1) see changes in the inner workings of the classroom, and 2) willing to build a bridge between experiences and life skills gained in a leisure context and skills gained in school context. But at another level you can see gender and ethnicity, as with literacy, having a feminine approach, referring to subjects such as language and care and subjects within the humanities. Though having a masculine approach, technacy will refer to electronics, math, physics, etc. In this sense, the issue mirrors a gender tradition for preference in the choice of school subject and learning area. What my fieldwork adds to this is that technacy is stressed as “more” than a school subject and certainly more than the subject of electronics. We also add the question of ethnicity as an open-ended question related to both the conventional and new gender pattern, in which the girls in particular (despite their ethnic background) are in front in terms of being educated and in terms of passing the exams (Borgnakke, 2012a).

For the further perspective, the interesting question is that when literacy and numeracy are well performed we see the classic masculine and feminine ideal for scholastic learning and performing. When technacy is

performed well, we may be rather seeing the IT nerd creating “the new model” and this will be a model for lifelong learning, as well as blended learning will be visible as an interplay between formal and non-formal learning.

Interplays and the third space of learning

Observations on the blended learning practice confirm that both the competency called technacy and the representation by The Nerd is acknowledged with respect. It gives also social prestige among both teachers and students. Such technacy gained in a leisure context, but also being useful in a scholastic context, is also evaluated as being remarkably positive. But to the same degree, the negative transformation of behaviour from the leisure context was remarkable. Private chat, computer games, My Space and Facebook activities are also at risk for being regarded as youth cultural noise, personal self-occupation, clique creation and mobbing, all of which will definitely be negative, not only disturbing the system and the teachers, but also being regarded as a pity. At the same time, some of the IT schools have up-front solutions such as “no access to Facebook during class hours”, or are shifting between online and offline activities in a more school controlled manner than before.

Against this background, we can look upon the basic criteria related to the question about the official agenda and its relevance for blended learning. My analysis will point at this in the following terms: any competence, any case, any type of activity (or issue) can be a part of the new mix and be of use in the classroom. It does not matter if it originates from industrial life, leisure life, home or street life. The demand is that “the case” or “the issue” shall demonstrate the relevance for the process of teaching and learning in the classroom, while also demonstrating usability in the interplay with the ordinary syllabus. In other words, my fieldwork and material show both “how and why” we are facing the question about the future classroom, coping with the life world of learners by constantly supporting the interplay between the spheres and between online and offline activities and between the official and unofficial agenda. In the close up analysis, I show the interplay and hereby the relation to what I call the Third Space for Learning (Borgnakke, 2012a: 165), summarized in the following bullet points

The Third Space for Learning

- Students’ performance with technacy is integrated in the students’ own strategies for learning. At the same time strategies must be described as an interplay and a mix or a newly blended version related to social media and to Generation I (iPhones, iPads, Internet).
- The interplay and the mix have an impact on the conditions for performing and “doing well”, both in terms of being a dynamic IT school and in terms of being a professional teacher and student.
- The mixed culture as techno culture being a part of the students’ social and ethnic background is challenging both educational high culture and youth mainstream culture.
- IT classes in the professional teachers’ point of view is a breakthrough for more inclusive and student-oriented teaching. Here, both a perspective of integration and widened up learning are at stake.
- IT classes create the Third Space for Learning as a space where one can be good/better/best at communicating in order to gain literacy with technacy. The point is that the students in practice are the living challenge to the question of “how to do” the communicative skills of relevance for socio-

cultural skills and study competences.

- From the experienced students' point of view, the Third Space for Learning is maybe only a matter about practical consequences. But in any case, it can be regarded as THE place for mastering the new culture techniques. And if so, it will be THE space, creating both motivation and new motives for learning.

Blended strategies - between IT and media and youth culture

Though being focused on new technology and media, the ethnographic fieldwork is still rooted in classic social culture studies. Further the concepts of youth culture will still be challenged in the entire spectrum, ranging from classic studies and cases (Willis, 1977) to the late-modern cases such as the current *Variations of the Lads* (Willis, 2004; Beach & Sernhede, 2010) or new mainstream culture: *The Digital Youth* (Ito, 2008; Buckingham, 2008, Thorne, 2009; Drotner, 2009; Elf, 2009). Additionally, the current case studies demonstrate the importance of an innovative strategy that experiments with new technologies. Here, the spectra of IT tools, the Internet and social media networks are both a challenge and tools research-wise, as well as in terms of learning practice. Research-wise, field notes, interviews and material collection look like the IT schools' IT-repertoire, with the entire empirical collection of course being on my computer, in addition to having Project Portals and websites. But if this is the new banality, it is still important to reflect classic approaches. Still doing old school ethnography, we therefore need to pay attention to the characteristic new point of view termed "IT and media-in-practical-use". To be precise, in this description of situated learning, an analysis of functions is important.

Thus, in terms of interactions and everyday behaviour, you can see how the entire environment and interaction, the body language and the activities are under the influence of what media researchers call the "mediatization of society and culture" (Hjarvard, 2008). At the same time, we are close to a multimedia practice in which the Internet, YouTube and mainstream youth and pop culture confirm the tendencies I described in former youth culture research as: The Media Roulette Wheel (Borgnakke, 2005). The point is that when the media roulette wheel is spinning, you can literally see and hear the flow and interrelation between the record (the sound, the hit), the film (the picture), the TV show (the ongoing event, a never ending story), the living concert, the dance floor, moves, style and clothes. It is not any single type of media that is of interest here, but instead the multimedia being interrelated and connected with everyday youth social behaviour and that of their peers.

The point is that everyday school life and the youth's own life world, to use a term from Ziehe's analysis (2004), is lived through and with new technology, media and pop cultures. From this perspective, research questions about IT integrated in the learning practice, as well as questions about gaining technacy regarded as a new life skill, are put into a sharper focus.

Given this, some of the important contrasts in the analysis of the background for ethnographic research become clearer. The contrasts such as market/user-oriented, professional/private, teaching/entertainment, formal learning/non-formal learning, school culture/youth culture are to be recognized as living contrasts and as a part of lived culture.

At the same time, with reference to the strong conception from former classroom research, it is important to ask the same question to 'the digital classroom' and to ask what the gender agenda looks like. Concerning the gender agenda there is a new dilemma involved because the girls "perform" better than boys in any sense of

the word, as the students being left behind are boys. We can currently recognize how the official agenda and the project of integration are stressing the boys as being in the centre.

As one of my case school teachers said in a presentation of the IT-project that began in August, 2011: “The idea with the IT classes and IT-based learning culture has always been connected to *the boys from the suburb*”. Like Willis’ classic analysis, the boys from the suburb were working class lads. But unlike Willis’ lads, these boys were ready to go to classes at the upper secondary level and ready to see a future as an engineer. In the 1970s, the boys were white young men. Today, in the 2010s there is no doubt that the teacher counts the ethnic diverse group of kids in *The boys from the suburbs*. But there is one particular point, namely that the boy “ready to take upper secondary classes and seeing a future as an engineer” today is a girl!

The schools have already realized that as a new fact, which could be the reason why schools stress that they need to take action with a focus on the real boys, developing hard core IT competences and literacy with technacy, in combination with a more boyish youth culture and a less girlish school culture.

In summary, the perspectives for ethnographic research in IT-based learning context seem to be the new largeness of scale that generate problem-conscious diagnoses of both the political demands of innovation and the consequences related to the school, to organizational culture, to professional teachers and to the students’ youth culture.

But summing up, we could also need a more open ending. If ethnography and classic fieldwork shall cover different learning contexts, multi-level relations among professionals, and coping with school culture and youth culture among the kids, with gender, ethnicity, etc... then we do need to put the classic fieldworker in perspective. At the very least, we are not talking about a single ethnographer exploring the field. Instead, we are talking about a research programme and a larger research group with seniors, PhD students and projects. But still, it must be an open question as to whether we need the classic fieldwork as the long stay, or confirm ourselves with intensive fieldwork and case studies. The basic principle of “being there, doing observation based on interaction and face-to-face communication” is of course not the only principle for ethnography; my point is that it is the basic principle. On behalf of ongoing projects where also online educational settings and e-pedagogical framework will be investigated, we are therefore confronted with both the basic principle of ethnography and of communication and confronted with a blended strategy integrating organisational ethnography and classroom research in the common framework (Borgnakke, 2013).

From an organizational perspective the ethnographic framework means sharpening the empirical dimension of the complex of e-pedagogical and professional IT-didactical issues. At the same time, close up studies will bring to light process of online learning seen from the student’s perspective. Following the online and offline activities in original time and practical settings, the study of the digital classroom followed by observations in the students’ home will generate the needed material on how the students create their own strategies and a space for interaction, communication and learning. In the empirical phases these projects will show how strategies for following online and offline activities have impact on the research methodology and the principle of ecological validity.

In the on going projects, we are therefore during the process confronted with the question about ecological validity as a proper mix of multi methods and media; hence, the blended methodology will still be challenged by classic ethnographic approaches.

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Presenting a hybrid course design to make ethnography work: leveraging e-learning tools to complement physical presence in intercultural contexts

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Abstract

An undergraduate course was developed to address the often overlooked emotional, psychological, and intellectual needs of students undergoing international education experiences. The course employed online learning pedagogies and applied ethnographic methods in order to encourage students to explore the host culture and improve their intercultural communication competence. Methodologies are reviewed and logistical obstacles encountered are acknowledged.

Introduction

This research discusses the successes and failures of an online course geared toward coaching students through an intercultural experience as they lived abroad. Undergraduate students from the U.S. travelled to one of several host countries to participate in an international education experience. A unique course called Crossing the Bridge was developed for this learning community, in order to address the often overlooked emotional, psychological, and intellectual needs of students studying in a foreign environment (Raschio, 2001). This course employed online learning methodologies, presenting ethnographic readings and structured assignments that encouraged students to perform their own ethnographic research while abroad. Student feedback indicated a strong positive influence on learning as a result of this connection with the home turf.

Formalized study in intercultural contexts places substantial psychological demands on students, and a strong global curriculum should address this impact. While immersion-based learning constitutes an invaluable pedagogical framework for encountering difference, it is essential to provide students with guidance and to encourage the critical self-reflection necessary to internalize realizations acquired during these unique lived experiences. By employing e-learning technologies and redefining the classroom in an elastic context, a modern global curriculum can better serve students during a time of intense emotional and intellectual change. It is hoped that the course under discussion is a step in that direction.

Given the heavy reliance on online learning methodologies in the structure of this course, great insights into pedagogical best practices for online learning communities were developed. Of particular note in the context of this course is the special role of ethnography within critical self-reflective practices. Few better methodologies exist than ethnography to spur student learning and maximize the meaningfulness of lived experiences. As the course was designed for a restricted timeframe (eight to ten weeks abroad), and importantly many students did not have previous experience living abroad, let alone conducting ethnographies, the presentation of the ethnographic method was simple. A four-step process was developed:

1. learn about the ethnographic method by exploring theoretical essays, book chapters, and prominent ethnographies;
2. develop examples and question types that are relevant to both student and interviewee;
3. conduct an intercultural interview and demonstrate understanding of best practices in ethnography;
4. analyse and summarize findings (often in the form of “I wish I had asked x!”).

Particular attention was given to the creation of an online learning environment in which students could share the results of their experiences and encourage each other in the development and refinement of ethnographic skills and understandings. The instructor participated in group activities and shared experiences and feedback, thereby setting an example for meaningful and readily accessible ethnographic practices.

Challenges to implementation

The running of any structurally unorthodox course will understandably pose several problems for the instructor (Teichler & Steube, 1991). On the surface there are logistical problems such as accommodating for time zone differences. This course was run several times with a partner university in Asia, Europe, and the United States, resulting in a time difference of 6 to 13 hours between instructor and students. Any attempt to schedule a mutually convenient time for real-time discussion, such as voice- or videochatting, often had to strike a balance between social or academic obligations to both the host and home cultures.

The goal of encouraging students to maintain a connection with the “home turf” by participating in targeted learning activities also introduced pedagogical problems. International education experiences are often expected to celebrate immersion-based learning, which typically seeks to minimize contact with the home culture in hopes of maximizing student contact with the host culture, thereby increasing cultural and linguistic competence. In contrast, the Crossing the Bridge course rejected this paradigm, seeking instead to connect students with research material that was relevant to their situation, in order to maximize the learning potential of lived experiences abroad.

The justification for rejecting this oft-celebrated characteristic of international education experiences is the belief that guided learning better meets the needs of students confronting cultural difference, during what is frequently an emotionally vulnerable time. Methodologically competent guidance from an instructor can enable students to target finer learning goals, and take advantage of limited exposure to the host culture. Prior to the development of this course, a review of student responses to international education experiences too often indicated that the role of emotion in the exposure to cultural difference was not adequately addressed. Students felt a wide range of emotions, from confidence and elation to frustration, and even resentment. But one of the most important questions was never asked: Why did students feel the way they did? What triggered the evocation of these ideas and emotions?

An additional constraint on student learning in a course of this nature is the limited time during which students had access to the host culture. In many other university courses, students can return to presented material at a later date to make revisions or reread texts. Given the ethnographic nature of assignments in the Crossing the Bridge course, coursework demanded that students make the most of their time while abroad. As a result, reconsiderations were difficult to implement, and students frequently discussed new methods or questions they would employ, if they had the chance to repeat an assignment with access to the host culture.

Finally, there was also the challenge that every online course faces: the lack of regular face-to-face interaction in the classroom. As e-learning gains traction in higher education, pedagogy has often struggled to keep up with the demands of the online learning environment. Given the unique situation of students in this course living and learning in a host culture, careful attention was given to ensuring reliable participation. In order to encourage student engagement, assignments were designed to be immediately applicable, to aid the students in making the most of the limited time they have abroad.

Structure of the course

The course was implemented at the undergraduate level, providing three credits in a quarter-based system. The quarter system at the University presented an obstacle to running this course, as University's academic calendar did not allow for much face time with students before their departure abroad, as most candidates for study abroad work before their departure and cannot be on campus prior to the start of the quarter. Thus it was necessary to find a way for the instructor to communicate with students before, during, and after their study abroad experience, despite the lack of physical co-presence.

E-learning technologies were used extensively, in the form of email, instant messaging, and an online learning platform, which included a message board. These forms of communication enabled the instructor to communicate with students before, during, and after their stay abroad, and provided students with a place to share their experiences in a discussion community. In addition to this ongoing online communication, the instructor was also given the opportunity to join the students for their final week in the host country to engage the students in intense reflection and discussion activities.

Three phases of the course

The course was structured in three phases. The first stage was about "setting the stage," and involved fact-finding and critical self-assessment or, as Dillard holds, the "construction of self as object" (1994). The second stage dealt essentially with the realization of difference, and investigated first impressions and the challenges of intercultural communication, which involved the process of deconstruction through critical self-reflection, and was meant to result in critical self-consciousness.

The third and final phase focused on the students' return to the U.S., and the sense-making process students would undergo in trying to understand their past, present, and future lived experiences. This last phase was designed to result in "critical political social action" (Ford, 1993). Upon returning from their stay abroad, students were asked to prepare a capstone research project that would relate the insights gained during their experience to a personal goal, whether academic, professional, or private. The project was meant to show that students had enriched their understanding of, and evoked an appreciation for, cultural difference.

Phase 1: Setting the stage

The first phase of the course was meant to engage students in knowledge-finding prior to departure, in order to equip them with a foundation of knowledge about the host country. Students were encouraged to familiarize themselves with the country's political, economic, and social structure. In addition, prior to departure, students were asked to reflect on their identity as Americans. Papers were prepared and turned in to the instructor before the students departed for the host country, covering both background research on the political structure of the country, and a cultural autobiography from the perspective of the student.

The cultural autobiography gave students the opportunity to construct their reality through narrating their lived experience. A cultural autobiography should serve as a recounting of lived experiences with the power to give voice to the participant and places value on the signs, symbols, and expressions of feelings in language, and validates how the narrator constructs meaning in the narration (Ross & Conway, 1986). The experiences the students related in their cultural autobiographies was supposed to help the instructor to appreciate how each student developed strategies for coping with the cultural difference confronted on a daily, even hourly, basis while living abroad.

According to Ting-Toomey (1999), individuals should become conscious of their own cultural scripts and preconceived notions, and become motivated to use new categories to understand cultural difference, and to experiment with “creative avenues of decision-making and problem-solving” (p. 46). With this in mind, students were asked to critically assess their own beliefs, values, and attitudes, as well as how or whether they felt these corresponded to a broader concept of American culture. The investigation of one’s own cultural identity was meant to evoke students’ reflection upon how concepts of identity play out in verbal and nonverbal interaction (Collier & Thomas, 1988).

Phase 2: Reflection while abroad

Upon arrival in the host country, the students entered the second phase, focusing primarily on the realization of difference. Students were given the task of describing their reactions to the difference they encountered not just intellectually, but also emotionally. Accompanied by readings on multicultural theory, students were encouraged to reflect on concepts such as religion, friendship, and family in order to broaden their understanding of the influence and depth of culture.

At the same time, students were asked to observe and converse with individuals from the host culture. Achieving multiculturalism is a process not just of learning, but also of socialization, given that it necessitates relating to others and will facilitate the understanding of difference, and should therefore result ultimately in the development of cultural sensitivity (Ford & Dillard, 1996). By participating in these critical interactive processes, students were given a chance to move not only beyond their own ethnic identities and cultures, but also to view themselves as collective parts of a broader world community.

In order to facilitate critical self-reflection and interaction, students familiarized themselves through readings and online discussions with the tools of ethnographic research. Students learned to apply the methods of this field of such participant observation, taking fieldnotes, conducting interviews, transcribing, coding, and analysing. In addition to the cultural autobiography mentioned above, students periodically submitted journal entries to provide documentation of their developing understanding and realizations. This foundation of essential ethnographic tools afforded the students an opportunity to critically assess their lived experiences abroad through the lens of multicultural theory.

By utilizing these tools of inquiry, students not only questioned their personal motivations, values, beliefs, identities, and emotions, but also came to understand present experiences, establishing a relation between theory and practice. The gaining of certain kinds of cultural knowledge through engagement with diverse others contributed to a deeper understanding of the construction of identity for the students, and was necessary not only for the creation of a learning community, but to set the stage for the creation of an acting community.

During this second phase of the course, the coursework was limited in scope to the sharing of experiences and to making sense of the emotional reactions to lived experiences. A shift in the dynamic occurred when the instructor arrived in the host country, resulting in the first emergence of a true learning community in the context of the course.

Throughout the second phase, students communicated via email and IM with each other and the instructor. Of course, the students were able to communicate face-to-face with one another on a daily basis, but the depth of discussion about aspects of living abroad and experiencing cultural difference seemed to be bounded by a sense of comfort (as was indicated in later group discussions). Once the instructor arrived in

the host country, however, there was a concerted effort to push the critical self-reflection and sharing activities to the point where they challenged the students and evoked new realizations about both the nature of their lived experiences and their own identities (Schlichting-Artur, 2009; Dillard, 1996). Such a change could constitute a transformation not just in the identities of the students themselves, but potentially in their social environments as well.

Through interaction with peers, students were asked to purposefully and deliberately “break the walls of invisibility and silence of their personal self” (Lorde, 1984). According to Dillard (1996), one creates new socially shared perspectives through dialogue with others. The new social consciousness resulting from this self-construction and sharing facilitates understanding in new situations, such as the development of cultural sensitivity, as well as brings the individual closer to becoming multicultural.

The ultimate goal of this course was to establish cultural sensitivity and enable students to become multicultural individuals. Relying on a communicative learning model (Beamer, 1992), in order to achieve intercultural competence, students were asked in group sessions to reflect on: a) past experiences with people of the host culture; b) on role and norm differences; c) anxiety; d) perceptual and cognitive sets of a world-view; and e) self-image (which implies the ability of an individual to empathize with another individual’s views and beliefs).

During the various group sessions, students learned to recognize previous unknown signals and began to recognize the diversity of signifiers (e.g. gestures, sounds). Students also attempted to develop basic categories of specific, selected characteristics that distinguished Americans from members of the host culture. For example, often cover their mouths when eating. This distinction enabled the students to reflect more on these unfamiliar cultural habits, and questioned whether exemplifying and categorizing entailed stereotyping.

Although stereotypes might be accurate to some degree, students came to understand that they provided limited insights and thus could be obstacles to intercultural competence. In contrast to these issues, which are more intellectual and cerebral, some questions raised were much more affective in nature, as students were asked to respond on the basis of their emotions. The answers to these questions provided important insights regarding value orientations, world-views, and behaviours. The emphasis of the group discussions shifted to stress the cultural differences in attitudes toward issues such as gender roles, power, sexuality, professional responsibility, religion, and family relationships. This discussion opened the door to questions which enabled the group to reflect upon the core values and meanings which motivated the members of the group, as well as individuals from the host culture with whom they had interacted.

These types of questions also led to the analysis of actual intercultural communication episodes. The learning focus was on the depth of one’s understanding and the application of what is learned in actual intercultural encounters. For example, students recounted episodes in which they were unable to decode messages from the new culture and to respond successfully. Not only did these situations lead to intercultural miscommunication, but also evoked emotions of discomfort such as embarrassment. It came to light that these emotional reactions had a negative effect on the students’ willingness to participate in similar events in the future, which substantially impacted the exposure to the new culture, and thus inhibited their process of gaining intercultural competence (Brislin, Landis, & Brandt, 1983).

The analysis of the communication episodes brought forth that students lacked a degree of intercultural

competence which would have allowed them to engage more successfully in the host culture. However, students learned to recognize new meaning for intercultural behaviours and articulated a willingness and motivation to accept the needs of others as well as those of the self. Although the students' time abroad was at this time drawing to an end, they left the host country with a sensitivity towards diversity and a desire to act on their new-found understanding.

Phase 3: Reentry

Upon their return to the U.S., students were confronted with the process of re-acclimating to American culture. As the coursework up to this point had focused on raising students' awareness of and critical reflection toward their own lived experiences, the assignments in the third phase were intended to further develop this goal by connecting the past with the present lived experiences. Students were asked to interview a friend or family member about how (or whether) the student had changed as a result of the time abroad. The objective of this task was to heighten consciousness of the meaning of these experiences, which might significantly affect future interactions. Students explored the ways loved ones perceived them, especially to highlight any perceived differences in behaviour or attitude. This provided material for critical self-reflection that had not been covered during the group discussions in person, as the students were not themselves conscious of these changes.

This phase finalized the triangulative approach to de- and reconstructing identity embodied by the course: in the first phase, students were confronted with the realities of the new culture; in the second phase the focus was on deconstruction of the self in order to achieve a critical self-consciousness; whereas the third phase addressed issues of identity negotiation (Ting-Toomey, 1999). By engaging with individuals most familiar with the students' values, beliefs, and behaviours (i.e. friends or family members), students were challenged to assess how or whether personal transformation had occurred. It was hoped that this new insight about the self might contribute to becoming a multicultural individual who demonstrates cultural sensitivity by moving from acceptance, to adaptation, and finally to integration of difference into one's world-view (Bennett, 1986).

In the third phase, students also had to structure a capstone research project on a topic of their choosing. The intent of this project was twofold: first, students were supposed to gain an in-depth understanding of their topic and formalize a presentation; second, the paper helped the instructor to identify what aspects of the host culture had impacted the students intellectually and emotionally.

A couple months after returning to the U.S., the group reconvened over dinner to present the research projects. The presentations resulted in a lot of intellectual debate, but conversation also dwelled on reminiscing. Some of the students expressed how this past experience had influenced their future plans. For example, one student shared the news that he was going to a different country for another study abroad experience. This time, however, he would depart with the knowledge of himself and an openness to diversity. Another student shared plans to return to the host country and pursue an advanced degree in his field of study. Although he had never been abroad prior to the study abroad for this course, the philosophical life of the host culture people was such a draw to him, that he felt he must return.

The role of instructor as ethnographer

In any pedagogical setting, it is incumbent upon the instructor to build sufficient rapport with students such that knowledge can be communicated effectively. Outside of pedagogical contexts, this observation is often

phrased as “know your audience.” An instructor must also not only guide students in the process of learning, but should exemplify scholarly competence in the field. The instructor in the Crossing the Bridge course, then, was doubly burdened by student expectations. Fortunately, this pedagogical demand opened several methodological doors which should be explored further.

The core qualities of an ethnographer, which students were encouraged to develop, include competent practice of participant observation; mindful encountering of unfamiliar environments; and a willingness to document and communicate developing understandings. Readings were assigned to familiarize students with these qualities. Some of these readings discussed the ethnographic method and its applications, and others were themselves ethnographies, chosen so that students could better grasp potential forms their output could take. Discussions of assigned readings were held in the online forum for the course, and students were encouraged to relate the readings to lived experiences.

Throughout this learning process, as students explored new methods and shared opinions on what worked and what didn't, the instructor came to know each student more closely. While many assignments were shared in a group setting, usually in the form of discussion questions on the online message board for the course, more personal assignments were submitted directly to the instructor, in order to protect privacy and encourage honest reporting of emotion. The expanding nature of the relationship enabled the instructor to provide careful guidance and feedback to students, in both individual and group contexts.

In this way, the instructor served as a model ethnographer, applying methods and understandings discussed in the coursework throughout all aspects of the course, from group discussions to grading and feedback. This arrangement enhanced the practical aspect of student learning in this course by creating a relatively safe space for students to study, observe, and explore methodologies. While the focus of coursework remained on application of methods in the context of the host culture, students progressed greatly by utilizing this supportive environment in developing new strategies for encountering difference.

In several runs of the Crossing the Bridge course, the role of the instructor as ethnographer was further expanded during the final phase of the course, when the instructor visited the host country and stayed with students for a week. During this time, the group travelled together, and each member of the group applied skills acquired during time in the host country, particularly in the areas of linguistic and cultural competence. Given the progress many of the students had made throughout the course, the instructor was able to observe interactions students had with locals, essentially taking a back seat to allow students to showcase their knowledge (Lorde, 1984).

Critical self-reflection and the ethnographic method

Given the unique context of the course, a pedagogical framework was called for that satisfied both psychological and practical needs of the students. The conducting of ethnographies demanded that students develop meaningful and useful methods for interacting with locals and exploring the host culture. During the development of these skills, there was a need for coursework that addressed the daily successes and failures of communication and understanding, as this tumultuous process quickly became the norm for the students. The chosen framework was that of critical self-reflection, and most assignments were designed with this perspective in mind.

Critical self-reflection is a process of evaluating lived experiences in order to fully internalize their learning potential. As prominent scholars in the field of communication theory define it (Dillard, 1994; Ford, 1993),

critical self-reflection consists of conceptualizing the self as object, in order to deconstruct one's beliefs, values, and attitudes, and subsequently reconstruct an identity that recognizes the influence of a wide variety of experiences and understandings in the creation of the self. When encountering difference, individuals often unconsciously undergo processes of identity deconstruction, and this course encouraged students to be mindful of these processes (Ting-Toomey, 1999; Schlichting-Artur, 2009).

Of particular importance in encouraging students to engage in critical self-reflection was the creation of a learning environment in which students could share insights about their experiences in a supportive and trusting context. This was accomplished by sharing many of the assignments within the group, so that each student, as well as the instructor, could provide feedback and share related experiences. This trusting relationship not only provided an effective means of improving practical methods for living and learning in the host culture, but also encouraged students to push back the boundaries in their conception of the self, thereby facilitating identity deconstruction (Lorde, 1984; Beamer, 1992). More complex and intimate assignments, however, were not shared in a group setting, in order to ensure that students still had the comfort and freedom to speculate and document more personal understandings and realizations.

An example of this division between group and individual contexts for coursework is the intercultural interview assignment, which was completed approximately halfway through the term. Each student chose an individual from the host culture and conducted an interview, which was subsequently transcribed and shared on the group discussion board. In discussing their own transcripts and those of their peers, students often stated how they would conduct the interview differently if they had the opportunity to repeat the assignment. Another common thread of discussion was to compare and contrast responses given by the various members of the host culture. However, students consistently produced more thorough analyses of both questions and answers from the interview when they shared their insights directly with the instructor, in the form of a written essay.

Due to the importance of the narrative in ethnographic research, group activities and individual assignments in the Crossing the Bridge course encouraged students to employ narrative construction as a tool for both communicating their understandings and reflecting critically on lived experiences (Ross & Conway, 1986). In order to facilitate this process, as well as to contribute to the establishment of a trusting learning environment, the instructor participated in many of the larger assignments by producing output and sharing it with the group. One such assignment was the cultural autobiography, in which students were asked to reflect on their lived experiences to create narrative of their identity. The instructor shared a narrative that included moving to a foreign country, developing coping strategies for acclimating to the host culture, starting a family, and maintaining professional and academic goals throughout the process.

Through the sharing of personal stories and a critical eye toward the construction of the self, students and instructor alike participated in creating a learning environment that not only provided a valuable respite from the emotional upheaval of living in a foreign culture, but also greatly facilitated the development of ethnographic skills and understandings (Ford & Dillard, 1996). By encouraging students to engage in processes of critical self-reflection, the coursework greatly enhanced the meaning of both successes and failures in the application of ethnographic methods.

Outcome

Part 1: Instructor's critical self-reflection

What worked

Reflecting on my experiences as an educator and participant in this course, I have faced surprises as well as challenges. When I first thought about designing this course, I wanted to create a learning community in which I would instruct, but also transform and even construct a “multicultural” environment. Little did I know then how important it was not only to establish successful lines of communication and to create tools for critical self-reflection, but also to be willing to share personal experiences in order to expose my own vulnerability and to garner trust among my students.

In fact, the process of becoming multicultural demanded not only that students developed competencies of perceiving, evaluating, and believing, but also that the instructor engage in the four interactive phases of self-development, which were addressed at the beginning of the paper. This meant that I, as the instructor, had to deconstruct and reconstruct myself through critical self-reflection and critical self-consciousness.

It was only after in-depth reflection on my teaching experience that I realized that some interactions had been influenced by decisions I made without much deliberation or beforehand planning. One such example was a spontaneous attempt to construct myself as an object and deconstruct through critical self-reflection by sharing my personal experience with the students, particularly in the form of a cultural autobiography I myself had written several years previous, a dialogue process of self-reflection and a common bond of interpersonal understanding arose. Students later told me that the sharing process encouraged them to be more self-critical and more open to sharing their own lived experiences. Given that only one of the three students had known me personally and for the other two I was a complete stranger, my sharing my own cultural autobiography was a particularly beneficial pedagogical tool.

My willingness to open myself to the students evoked a feeling not only of equality but more importantly of trust. By the time I arrived in the host country they knew that I had experienced situations similar to those they had encountered and were still encountering in their new living and learning environment. I had spoken openly of intercultural miscommunication but also of feeling anger, rejection and isolation when being faced with individuals who had a different set of values, beliefs and behaviours than I did. Thus, by inviting them into my personal life, I had slowly started the bonding process, which proved to be immensely important during our dialogues and in-group sessions.

I cannot say whether the group dynamic would have been different without this openness, but I do venture to say that it helped to break down certain barriers of discomfort. Yes, I was still the instructor, but I became “part of the pack” as I performed and shared all of the activities which I asked the students to do. It seems that this sharing of beliefs and insights helped us to bond, to engage in critical self-reflection and to share our thoughts with others. As a group, we spent much time with each other, especially during the later part of the trip when we visited a small island off the coast of the host country. We became reliant on each other for mundane things such as food and transportation but also for emotional comfort as we were culturally very isolated from the rest of the population on the island.

I also reflected much on the interaction among the individual group members. The group consisted of three male students and one female instructor. One would have expected this dynamic to establish certain power and gender relations. In hindsight, however, it seems that power and gender roles had little effect on the

group interactions as our shared lived experiences created feelings of understanding and empathy, and allowed us to bond more easily.

Hence, my openness to share and a willingness to establish a sense of equality among group members seems to be a required prerequisite for the course to achieve its desired goal. In addition, I needed to be flexible and allow for the exchange of power with regard to the roles of individuals in a learning environment. Maintaining a small learning environment also contributes to the creation of a sense-making and self-reflecting learning community as exchange can constantly be exercised and will not be stifled by fears of self-exposure.

What should be improved

When reflecting upon possible changes for future courses, I decided that the students and I needed to invest more time into critically analysing their final projects. Although all the projects had satisfactory outcomes, I could have challenged students to become more reflective on their research and to tie their projects more strongly to their present academic and professional life. For example, one student presented me with a good research paper on torture during a previous political regime in the host country. But instead of treating this topic as an isolated historical event, the student should have linked this critical incident in history of that country to the wider topic of torture in general and in the US in particular.

As a result, the subject matter would have had broader intercultural relevance and engaged students once more in critical self-reflective processes and dialogues. It appeared that the notion of torture not only evoked intellectual interest but also an emotional reaction as the student was directly confronted with historical evidence of it during his time abroad. In this particular case, the student should have been challenged to look at the topic through an intercultural lens as torture occurs in many cultures around the world. It would have been beneficial for the student to examine the values and beliefs which have affected behaviours regarding torture, as he would thereby have gained a better understanding of the issue and become an informed citizen, willing and able to become involved in the change of social practices.

Achieving multiculturalism and becoming a global citizen is an ongoing process, and students needed to be reminded that diversity is not a phenomenon one encounters only when studying or working abroad, but something with which one is confronted on a daily basis. By engaging in critical self-reflection, students can be presented with the option to become critical social political activists, i.e. those who not only reflect and understand, but also those who engage in processes of change which bring about new socially shared perspectives.

Part 2: Students' critical self-reflections

Students have attested that critically engaged reflection has encouraged them to confront their emotional upheaval, to deconstruct learning in meaningful ways in order to make sense of their experience and to develop an understanding for different sets of values, beliefs and behaviours. Many students shared their assessment of the course upon return and provided the following statements. One student commented:

The most important way the course made sense of the study abroad experience was that it forced me to sit down and actually write out, flesh out, reflect on what actually occurred (the events) and my response (the reflection) to it. Too often we experience events and feel we won't ever forget the swell of emotions, the thrills of exciting times, the sadness of feeling lonely without our familiar friends and family. But until we capture those emotions on paper, they will

be long forgotten. Just like taking a photo captures the sight, writing ink on paper captures those emotions.

The student's comments clearly show that he valued the course as it forced him to face his emotional journey by using a verbal output, which helped him in turn to build up coping mechanisms. Another student expressed that he learned to practice more mindfulness, which had a long-term effect as it has impacted his ways of thinking and his behaviour even when back on the home turf:

Throughout my time abroad, I often felt worried or insecure, unsure of my abilities to interact with the culture I was living in. The Crossing the Bridge course provided me with immediately applicable tools that helped me make sense of what I was experiencing, while I was experiencing it, and use that understanding to further my learning in a meaningful way. Beyond that, years later, I still find myself practising mindfulness when encountering difference. Sometimes, one's own culture can feel foreign or strange. The ability to reflect on that feeling and piece together new understandings out of it has made a profound difference in my life.

However, the course was not only beneficial to American students who travelled abroad but also to international students who studied for the first time at an American university. A student from Germany stated that the course was helpful as it encouraged him to interact more with locals and to integrate the course lessons into his daily life:

I consider it one of the most valuable courses I have taken during my entire time at university so far. [...] On the one hand, the psychological and sociological education I received in the course made me more aware of the differences among cultures in any encounter I made during my time in [host city]. On the other hand, the course motivated me to actively seek contact with natives even more, because most of the weekly deliverables asked to write about particular behaviours I recognized in Americans. This – in turn – contributed a lot to the 'success' of my semester abroad in regard to my personal goal of making American friends and getting to know the culture 'first hand.'

All in all, students who have participated in this course seem grateful to have made the most out of their time abroad, and that the course provided them with the tools necessary to do so.

Conclusions

As higher education responds to the rising demand for cultural competence training, effective international education experiences must be designed and implemented if academic institutions are to meet the growing needs of students. Traditionally programs of this nature have failed to provide students with meaningful guidance before, during, and after the international experience, but the adoption of new technologies in academic contexts has opened doors for new processes of learning. In particular, the creation of online learning environments offers instructors a powerful method of engaging students and encouraging them to learn from one another. In the context of ethnographic research, this pedagogical style provides unique perspectives and substantially improves group-based learning. While the long-term effects of such methodologies are as yet unexamined, early indications in courses such as Crossing the Bridge are extremely positive.

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Creating a Virtual Community of Practice for PreService Teachers: The Virtual Fieldwork Sequence (VFS) Project at the Math Forum

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Abstract

This paper reports on a project at the Math Forum where an online course module is used to create a virtual portal between the Math Forum and several schools of education. The project draws upon educational theory, which suggests that to produce ideas is to engage in a dialogic process with other and specifically to produce mathematical ideas one must engage in mathematical practice. Using ethnographic methods the paper discusses the evaluation of this effort to create a virtual “portal” between two cultures. The paper has implications for ways the internet could be used in other educational situations where one is attempting to bridge distinct cultures and where those cultures are geographically separated from one another.

Introduction

This paper documents the development and unfolding of a project at the Math Forum for university students who are going into teaching. The project, called the Virtual Fieldwork Sequence (VFS), was designed to give students a “pre-field” experience in mathematics education by introducing university students to the work of K-12 pupils through the Math Forum’s Problem of the Week (PoW) service (<http://mathforum.org/pows/>). The Problems of the Week are online non-routine challenge problems that K-12 pupils do and they receive feedback from a Math Forum staff person on their work. The goal of the PoW program is to encourage pupils to engage in mathematical conversations around their problem solving with the further goal of encouraging mathematical thinking and new identities around mathematics (Cobb, Gresalfi, & Hodge, 2009).

By training preservice university students (education majors before they have done their student teaching) to give the K-12 pupils feedback about the math problem solving, the VFS program sought to train university students into mathematically engaged conversations around problem solving (Sfard, 2008). Many schools of education in the U.S. focus on procedural knowledge and testing and do not focus on rich mathematical conversations and deep mathematical thinking and so this project was an experiment to create a virtual “portal” between two cultures, the culture of the university students and the culture of the Math Forum (Borko et. al., 1992; Cobb, Zhao, & Dean, 2009). The hope was that the Math Forum’s focus on mathematical practice, conversation and thinking would influence the lives of the undergraduates at different universities and facilitate new identities round mathematics for them as well (Jacobs, Lamb & Philipp, 2010).

Drawing upon data from face-to-face meetings, virtual meetings of various kinds, interactions in the Math Forum’s virtual PoW environment and interactions in a course management system, the paper documents the effort to share this vision of a Virtual Fieldwork Sequence and to implement the vision. The paper is a virtual ethnography of a virtual project (Garcia, 2009; Sade-Beck, 2004; Wittel, 2000). As such the paper explores the new spaces that are opened up by advanced information technologies for people to experience new kinds of sociality and the potential for learning and knowledge production within these new spaces (Hine, 2005; Miller & Slater, 2001). Further the paper discusses the nature of ethnography within these new hybrid spaces that involve people’s physical worlds but also the virtual worlds that are transforming physical spaces. Finally we explore the new forms of identity that are produced through these interactions and how those identities contribute to mathematical learning (Fornas et al., 2002; Rybas & Gajjala, 2007; Cobb, 2004).

Math Forum Culture and Learning Theory

Our theoretical model is based in our experience working with the Math Forum, a unique internet organization that has developed its own unique culture that we think is exemplary for thinking about the future of virtual organizations (Renninger & Shumar, 2002, 2004). Our model also comes out of developments in socio-cultural learning theory where the emphasis is on the social nature of learning and how context is always part of any learning process. Central to the model we have developed is conversation and activity that individuals are involved in. These conversations are often motivated by needs a group of teachers have but sometimes they are motivated by a group of teachers wanting to be involved in a Math Forum project (e.g., <http://mathforum.org/brap/wrap2/>). At the Math Forum the activities almost always involve doing Math. The Math Forum culture focuses on how doing math is a daily part of ones thinking and that doing math also leads to discussions about student thinking, pedagogy and curriculum.

At the core of the Math Forum is a tendency to produce new kinds of organization that are based more in a shared set of interests or goals and are less tied to traditional boundaries be they institution, physical communities, or states. Maffesoli (1996) has tried to capture the development of these new forms of organization with is notion of the neo-tribe. The idea being that our connections with each other are becoming more like affinal and consanguinal ties that on might find in traditional tribal structures. Gee (2003, 2005, 2009) attempts to capture a similar notion with his idea of the “affinity space.” For him, rather than focusing on the idea of community, which implies a particular notion of spatial contiguity, Gee suggests that new media are making affinity space more possible where the space is defined by the kinds of interests people have and the kinds of relationships the develop in those spaces (Francis, 2012).

Critical to these notions of new forms of social arrangement is the prioritizing of communicative interactions as one of the key features of the way the social space work. This is clearly part of the math Forum culture where the affinal bonds are expressed through discourse and by ones interest in doing math with other like minded people and discussing those mathematical interactions.

If conversation and interaction lead to deeper thinking, it also leads to the formation of a discourse community. Several philosophers and social scientists have pointed out that thinking, learning and knowledge production are social phenomena. Peirce (1931) pointed out that all thought is dialogic and that even when we think alone, there is always an interlocutor and an imagined conversation that we are part of and Bakhtin (1981) made a similar argument in his work *The Dialogic Imagination*.

Sfard [2008], bringing together the work of scholars such as Dewey (1938), Vygotsky (1986) and Wittgenstein (1953), claims that communication and cognition are flip sides of the same coin and suggests that our traditional ideas about knowledge acquisition are incorrect. Knowledge and what we call learning, are communicative acts and necessarily social. To capture this insight, she invents the term commogition to underscore that communication and cognition are social and intersubjective (Sfard, 2001). To Sfard, mathematical development involves being assimilated to a new discourse, one that has conceptual objects for which the student has no former understanding. Using the semiotic notion of signifier/signified she points out that students have no choice but to use a signifier with which they are not yet familiar. The way they develop the mental objects or conceptual understanding is akin to the ways that Lakoff talks about how metaphor is used to expand understanding in general (Sfard, 2001).

The problem of learning mathematics then is related for both students and teachers. They must find

themselves in a discourse community where problem solving and mathematical practice is part of the norms of that social group. Being a member of that discourse community leads in a dialectical way to more conversation and more thought and deeper forms of knowledge and understanding. Lave & Wenger (1991), for example, note that it is impossible to distinguish the learning from the context within which the learning takes place.

The model we developed based out of this theory was that conversation and activity leads to thinking and learning. But that conversation and activity can also lead to the creation of a discourse community where people could develop attachment and belonging. The new media tools help facilitate the development of this discourse community that can deepen activity and conversation and support identity shifts as well as shifts in the social imagination of the group.

The Problem in Schools of Education

With preservice teachers there is a lot of lip service paid to practice and communication, but in reality the culture of many schools is one that is fairly anti-intellectual and where it is pretty difficult to encourage conversation and interaction. Many faculty have told us that they wish they could have the kinds of conversations they have had at the Math Forum with their students at their universities. It is with this idea in mind that we sought to create a portal between the Math Forum and the school of education.

The VFS Modules-Hybrid social space

At the core of the Virtual Fieldwork sequence project was the creation of three online modules to enable pre-service teachers to work with the Math Forum. This project was a National Science Foundation (NSF) project. It grew out an earlier NSF project called the Online Mentoring Project (OMP). OMP created the first module and the idea of the module, which is the core of both projects, was to allow pre-service teachers to mentor K-12 pupils in mathematics.

The Math Forum has a service called the Problem of the Week (PoW) that is made up of a series of non-routine challenge problems. Pupils are encouraged to solve these problems, explain their solutions and then submit their work to the Math Forum. These solutions and explanations are then read by the staff and volunteers and students receive a mentored reply to their work that always encourages students to revise or make additional insights. One is never done talking about math even if one gets the right answer, because correct answers are only the beginning of mathematical thinking not the end.

In the OMP projects, the online module was designed to teach pre-service teachers to think about a particular set of mathematical operations and then to mentor K-12 pupils in the PoW environment. We thought of this as a “pre-field” experience where university students could focus on pupil thinking about math before their faced all the distractions of the classroom.

In our evaluation of the project, students were very enthusiastic and enjoyed working with pupils online. They had strong feelings of empowerment about their ability to deal with technology and mathematics. So there were some fairly large shifts in attitudes and interests. But not surprisingly their ability to do math had not changed very much. And this is not surprising because the module was not designed to teach mathematics.

Building on this evaluation of the OMP, the VFS project developed three distinct online learning modules, 1)

Mathematical Thinking, 2) Diagnosing Student Thinking and 3) Mentoring in the PoW environment. Module 3 was a tweaked version of the earlier module from the OMP project but Modules 1 and 2 were brand new. These new modules were not to teach pre-service teachers the math that they had not gotten in their high school or university educations, but they were designed to articulate and encourage an attitude toward mathematics and thinking about mathematics that would predispose these future teachers to develop interest in the area and encourage an open dialogue about problem solving and mathematical ideas.

The goals for preservice teachers' work with module 1 were several. First we wanted to build on the strengths of the previous project and support the development of agency in the process of mathematical problem solving and improved mathematical communication skills. Further we wanted to encourage the pre-service teachers to see the connections between rudimentary math concepts and more sophisticated formal methods. Next the module worked to help develop productive mathematical habits of mind and problem solving heuristics. Finally the module encouraged recognizing the pedagogical value of a range in student work.

Module 2 focused on developing the pre-service teachers' ability to differentiate and adapt instruction based on an understanding of a given student's concept development. This required the pre-service teacher to develop expertise in analysing student work and understanding student thinking, Underscoring this process was the continuation of the development of mathematical habits of mind that support the effective use of student thinking as an instructional tool. The prior work in mathematical problem solving (module 1) provided a foundation from which participants could learn to distinguish between knowledge that is useful and knowledge that is essential for solving a given problem/topics being addressed.

Finally the third mentoring module provided pre-service teachers with experiences and heuristics for student-centred instruction that could inform their future classroom practices. The process began with the pre-service teachers solving the problem in the PoW environment that they will mentor and for which K-12 students are submitting solutions in the PoW. The participants then proceeded through a process of (1) learning effective general mentoring skills, (2) practice mentoring, and (3) supervised mentoring of school students.

These three online modules were implemented in various face-to-face math education and curriculum and methods course at different university. The Math Forum modules were used as a kind of virtual portal where the university student could move into the online math education community as part of their work in a face-to-face university course. We constructed the online modules to be a kind of boundary object and that within that object that brings together the world of the pre-service teacher's university culture and the Math Forum's culture is the Problem of the Week environment. The PoW environment has its own virtual back office space where mentors get assigned problems to mentor and do the work of mentoring. The PoW then functions as a kind of ritual space for the initiate teacher who gets to bridge these two cultures in through the online modules.

Success of the Modules

One of the key things we were looking at was the kind of discourse and interactions that went on in the modules. We attempted to look at the ways in which there is discourse and meaning making across groups, be they university students, university faculty, Math Forum staff and pupils solving problems in the PoW environment. We implemented the modules with instructors at four different universities. Each faculty member used the module with her or his face-to-face class. Sometimes all three modules were used in one

class. Sometimes the use of modules was stretched across two separate semesters.

With the pre-service teachers we were looking to see if the modules could have an impact on their mathematical thinking and perhaps more importantly their affect around math. We wanted to know if they were more willing to do math and to value math. Did a change in their disposition affect how they worked with pupils?

Additionally we were interested in the impact of the modules on the interaction between the university students and their professors. Did the work with the module create different kinds of opportunities for different kinds of discourse? Did the faculty see this as a way to allow more of a mathematical conversation to occur and if that occurred were the faculty members more likely to adopt the VFS modules in future semesters.

Finally we wanted to know if the modules had any impact on faculty and the way they worked with and talked about mathematics. Were instructors more likely to engage in mathematical thinking or mathematical conversation? Or did they bring a more procedural approach to working with the modules.

In this paper we don't discuss the faculty interactions but we do have some examples of student learning with the modules. In order to frame these examples we can set up what the pre-service teachers encounter in the module. After some initial framing about mathematical interactions and mathematical thinking the university students are presented with a very basic problem. The problem states:

“Farmer Mead would like to raise frogs. She wants to build a rectangular pen for them and has found 36 meters of fencing in her barn that she'd like to use.”

This is very typical of a problem that one might encounter at the Math Forum. It is very open-ended and does not tell you what to do. It allows the problem solvers to develop a discussion about what is mathematical here and what kinds of operations we might be able to engage in. The Math Forum's approach to presenting problems is very different than most textbook approaches where problems are very precisely defined and students are asked to do one specific thing. That kind of textbook approach lends itself to a more procedural approach in math education and one that is very common among math teachers.

AS an example of this kind of open-endedness, I can remember one Math Forum project where a groups of middle school math teachers were invited to be part of an NSF funded project Bridging Research and Practice. The project was a two-year project but one of the first meetings for the project the group of Math Teachers were all invited to a two day face-to-face workshop to start the project off. When the teachers arrived they had an initial meeting with Math Forum staff where they were asked what they would like to do for the next two years. The teachers were completely befuddled. They had expected to come to a meeting and be told what they would be working on. They were at a complete loss to define their own project and then develop a plan of work. But over the next few days and weeks, with a fair amount of support and encouragement the teachers found their own voice and decided to focus on “discourse” in the bridging research and practice exercise. In the end they did a great job pulling together a significant amount of work in this area including looking carefully at their own classroom practices (<http://mathforum.org/brap/>).

At various stages in the frog farming problem students were asked to discuss the problem and to talk with each other about what they were doing. Below are some examples of student's engaging with the Frog Farming Problem.

I looked at it the way XXXX said and I guess I completely understand that it's strange we looked at it that way. So now I see how the rest of you got that answer. Thanks for the help!
– Student at Eastern State University

Those are some good questions! You made me think about frog cages in a whole other light...
– Another Eastern State University Student

In these first two comments we can see the beginnings of the kinds of interactions that the Math Forum as a community tries to facilitate. The students are questioning the ways that they look at the problem. Especially in the second comment we can see that the student is changing her/his perspective and is attempting to think about the problem in new ways.

Hi XXXX, I read your solutions and they seem right but as I was doing it I realized that it is hard for me to follow other people's math or logical thinking. If I slow down I can see that you have done it correct but because it starts out different than mine I assume that it is going in a wrong direction. But as they say, "All paths merge on top of the mountain." This experience makes me wonder about how young students see the logical process of solving math problems and how there might be a number of seemingly screwy things they start off doing but end up with the correct response...hmmm. – Student at Western State University

Math students are often very focused on correct answers. And, of course, correct answers are very important. But the Math Forum is much more interesting in students' understanding and not just getting correct answers. It's quite easy in math to get correct answers and have a very limited understanding of the problem. In the above quote we can see the student not only struggling with a way to understand other people's work, but this has led them to also question how younger pupils think about math problems.

XXXX, The way you did it makes sense. You started with the largest pen possible and worked backwards, 9x9 to 8x10. I saw that I need to come up with four pens total so I started by making a 1 by 17 just to get a pen under my belt. I drew it on graph paper so I could keep track of the lengths of fence I used. I had to work up to find the maximum but could after I saw a pattern. Working down seems easier. Good job. – Same Student at Western State U

Here we see one university student attempting to follow the logic of another student. The student points out that the way of working is a good logic and congratulates them for their process. Here we have a movement away from answers and toward processual thinking.

Unintended consequences

In our theoretical discussion above we talked about Sfard's view of objects and the ways that objects were created through communication and thought. These kinds of symbolic objects are, of course, related to more physical objects such as written equations, calculators and etc. One of the things the designers at the Math Forum focus on is the ways that all sorts of objects, be they online modules, math problems, assessment rubrics, etc. facilitate conversation. But facilitating mathematical conversations and interactions is difficult and sometimes these things don't work as intended. The failures of communication are as important as the successes.

Missed opportunities

These first two examples are examples of what we would call missed opportunities.

When you were writing about what size she wants to make her pen, I started to wonder if there was the possibility of building two pens to hold the frogs, incase space was a concern. – Student at Eastern State U

This student brought up a new approach to the question that was not elaborated. She demonstrated that the way other students are thinking has stimulated her own deeper, creative thinking. It is often the case that interesting leads are brought up in conversation and no one thinks to follow them up. It's very hard for pre-service teachers, and perhaps teachers in general to hear the possibilities in what someone is saying. Therefore many times interesting leads are just left.

Some people aren't sure whether or not a square is also a rectangle.– Another Student at Eastern State U

This 'question' became a major issue with the Eastern State University group, and the lacking clarification eventually caused many students to eliminate the correct answer to the problem, merely because they didn't actually discuss and resolve the issue. This example is an example of the students who tend to have a pretty limited understanding of mathematical thinking and are often simply trying to memorize rules of formula. They needed a better way to think through the issue of whether a square was a rectangle or not.

Student alienation

The fence seems to be the biggest concern, that is, what it looks like. From what I know frogs do need water, so has Famer Mead thought about the location and the design that will keep these frogs healthy and contained. – Student at Western State U

Why is what the fence looks like the biggest concern? Are we suppose to be concerned about what the fence looks like or are we concerned with the whether or not we can construct a rectangular pen with the given materials? – Student at Eastern State U

Finally we have a couple of examples of student alienation. In each of these examples the students get off on the wrong issues and those issues cause them to stumble and miss the importance of the exercise. This was most clearly summed up by students at Eastern State University. While they were debriefing with their instructor they asked, "why are we doing this problem?" They did not see the significance of the exercise.

Conclusion-Where do we go from here?

In this effort to create a web portal into a school of education and influence a group of university pre-service teachers the project had some mixed results. A lot of students did stretch their mathematical thinking and were very creative thinking about what kinds of problems could be generated out of the frog farming problem and then also what kinds of thinking could go into solving those problems.

But there were lots of cultural limitations in the process as well. We discovered there were a large number of assumptions that go into developing a thinking problem and it is hard to surface those assumptions. It was hard to convey to the university students that math was about thinking and that they could benefit from open-ended conversations about mathematics. There were many instances where conversation—or truncated

conversation did not lead to creative thinking.

Part of what we found to be necessary is the creation of better conceptual objects to encourage university students to think about math and to learn why thinking about math would make you a better teacher. These conceptual objects often involve particular kinds of interactions that can be scaffolded in the online environment for preservice teachers.

But what we did find was that the idea of creating the web portal was sound. We had succeeded in bringing the culture of the Math Forum to several universities and where that happened many students engaged in a deeper level of discussion and engagement around mathematics than they had done before. But we also saw that challenging the anti-intellectual environment in many schools of education was more difficult than we first thought.

After this project was over, the Math Forum created a pair of graduate courses in math education focused on the lessons we learned from this project. These courses have done an even better job than the VFS has done conveying an interactional and critical thinking approach to math that is the hallmark of the Math Forum's practice. Part of the key was to keep the thought in front of the students that they need to think about what kinds of mathematical thinking students need to do in order to solve a particular problem. When we are able to keep the university students focused on this meta question, it then makes them more receptive to a discussion of mathematical interactions and thinking. But keeping this idea in front of them –that there is an end game – is more challenging than it looks. These are the foci of the next steps as we have continued to try and leverage new media technologies to support communities of practice where these different ideas about mathematical practice and interaction can be explored.

Notes

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“You do the Letters, I Take the Mouse.” Accounts of Situated Cognition and Cooperation Through ICT use in Classrooms

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Abstract

Computers have become familiar tools for learning and instruction in classrooms. In my ethnographic study of two primary school classes in Switzerland I looked at how this technology is used by pupils and teachers alike. My focus here is on the how of PC practice in action and less on the why and what or even what for. A close reconstruction of observed practices with regard to computers yields an ever-recurring domain, which I call “situated repair work” (SRW). The SRW category as part of the handling of the interfaces of ICT equipment seems “natural” and is abundant when it comes to the use of electronic systems. Everyone is expecting SRW to take place all the time and it is handled on the routine grounds of social practice. But the difficulties of handling physical interfaces, semantic challenges of understanding the virtual, and the properties of a machine that “can think but nevertheless makes mistakes constantly” blend into a kind of regularly emerging test for the participants. This test is not usually solved by a single actor but rather by a joint and interactive effort following certain scripts. Analytically, SRW offers access to the question of how we learn by the use of ICT in classrooms: it focuses the situated and interactive part of cognition as a joint production by man and machine.

1. Introduction

1.1 Digital Technology in Schools

In this micro-sociological study I take a look at computer use in the classroom. This technology is variously addressed as “digital technology,” “information and communications technology” (ICT), and “computerized technology,” and there are a number of other terms under the “information technology” label. Although it is by no means clear where the boundaries of these technologies should be set, we can say that all of these terms refer to computer-based systems that are used to produce, manipulate, store, communicate, and disseminate data as information. In particular, this comprises computer hardware and software applications (Selwyn, 2011, p. 7).

What today is referred to vaguely as “digital technology” or sometimes as “new media” in schools is a large and ever growing array of artefacts (PCs, handhelds, tablets, smart phones, laptops, whiteboards, voice and/or video recorders, screens, etc.) and the software required to operate these devices. The direct changes in everyday life across the main areas of society as a result of the “digital” (such as in the workplace, media consumption, the family, government, etc.) are evident to most observers. But such changes are empirically hard to pin down and even harder to systematize due to the combination of constantly ongoing technical development and the high speed of its introduction into society. The rapid pace of the penetration of the classroom by such devices and the continuous merging of what is called “digital” or “new media” with further domains like the “social media,” “web 2.0” and, just recently, “clouds,” make it very hard—at least for social scientific audiences—to track, record, and analyse what becomes defined, what is done, and what is achieved by the use of this technology in schools.

The school as a particular place, where the production and dissemination of knowledge and information in interaction with others is the core practice, is surely a place where ICT can and does play an important role. This role is mostly advocated and displayed by way of technological “boosterism,” where the faith in the

beneficial impact of ICT on learning has few limits. And accordingly there are few, if any, doubts about the educational merits of computers and the “new media” in the classrooms by those who sell or introduce them into teaching and learning. The exact opposite on the discursive spectrum are those “doomsters” who see ICT technology in school as damaging for the school as an institution and, in particular, harmful for the young (Beagum & Kenway, 2005).

But while we can currently observe a widespread and taken-for-granted faith in the ability of digital technologies to improve schools and schooling in Switzerland, there is less consent about what this precisely means on the practical level of teaching. Some current and unanswered questions might illustrate this: Why are blackboards being replaced by electronic whiteboards so extensively? Do schools need to engage with web 2.0 applications? Must schools provide computerized “learning platforms” and “blended learning” environments? Does every pupil need their own computer? Are tablets or smart phones an alternative to PCs?—and so on. These quite “shopping-oriented” questions for school managers and principals can easily be enlarged by more specific practical and pedagogical questions: How can and do children handle a standard keyboard built for adults? Is there a right time to learn the 10-digit handling of a qwerty keyboard? How long can children concentrate and look into monitors in school? What is the appropriate content to learn when it comes to ICT: programming, use, or even critical appraisal? What are the advantages and disadvantages of having PCs in the classroom for the teachers and pupils alike? How many PCs are useful in a classroom? How should PCs be arranged spatially in the classroom? What things done on the PC should be printed? Where are the prints stored? What software is appropriate and useful for what subject and age?—and so on. And in the background questions of the transparency of pupils’ performance on computerized tasks arise: How long and what kind of performances by a pupil (standardized, non-standardized) should be stored, transferred, and analysed?

Whereas questions of the first type are mostly political questions that are negotiated by school boards and administrations (and often sadly enough, without the involvement of the teachers, who will have to provide instruction later on these devices) taking account of available financial resources, the second type of question constantly occurs during the application of ICT in the classroom and is remarkably less obvious to the outsider. This is due to the taken-for-grantedness of computers in classrooms today. The everyday practical challenges of applying ICT in schools are handed over to the individual teachers. They become involved with ICT questions more and more in a society that is being penetrated ever more deeply by this technology with little questioning.

In my ongoing ethnographic study in a Swiss school I want to track questions of the second type. I am interested in how teachers and pupils get along with ICT in the classroom. This does not mean that the “big” questions of ICT technology are completely omitted because the questions can often not be easily isolated; just think of the control issue arising when the outcomes of computer-based work can be stored for a very long time, handed over to others, be scrutinized over and over again, and distributed widely. So the “big” and the mundane questions of practice become linked in one way or another. But *my focus here is on visible ICT practice and computer assisted learning in the classroom*. Even more precisely, I restrict myself here to the use of the standard PC and the electronic whiteboard.

1.2 Theoretical framework

To investigate the role and use of desktop computers and electronic whiteboards in primary school education,

I draw partially on an ethnographic theory of cognition, where knowledge (or cognition or competence if one wishes) is conceptualized as a socially situated practice of performing tasks, rather than as an abstract concept of what is supposedly in people's heads (see Hutchins, 1995). Of course, learning with computers does involve the acquisition of interpretive schemes, scripts, norms, procedures, and other aspects of the social order by the individual pupil. But such processes only become visible and observable through social practice, where the actors engage in interactions with each other and with their technical artefacts in the environment of the classroom. In order to sort out the many things I encountered in the classroom, I draw on the distinction of physical, social, and symbolic things as meaning-making tokens (Blumer, 1986). For my fieldwork I relied on the method provided by Spradley (1979, 1980). This method is rooted in ethnoscience (Frake, 1980) and it provides a systematic apparatus for field research based on sociolinguistic concepts of categories such as domains, attributes, taxonomies, and cultural themes.

1.3 Local Action, Field Access, and the Research Question

The public primary school municipality of the town of Hillside in Eastern Switzerland decided in 2010 to develop a cutting-edge ICT learning facility. They formed the "laboratory school" (short: "lab school") comprising the first six years of the primary school education. As a first step two classes of about 20 pupils, where each class is split up into three age cohorts (Grade 1 to 3 and Grade 4 to 6), were formed. These "lab classes" were equipped with distinctly more ICT than is usually the case in Switzerland. Each class at the lab school requires ten fully equipped desktop computers with headphones, integrated into a local school network, including web access and printing/scanning facilities. Every teacher is given their own laptop and the class with the 18 older pupils (from 4th to 6th grade) also got an electronic whiteboard. The two teachers involved, one female and the other male, are at least at a "superuser" level when it comes to computer practice. In fact, they received special training at a university of teacher education and are now called "i-Scouts." I-Scouts are the formal vanguard of the ICT-trained teachers in this area of Switzerland, the Canton of Thurgau.

Field access was granted by the headmaster of all the schools, the President of the Hillside School Municipality. He is one of the promoters of the idea of pushing ICT in his school and was interested in what we agreed on, to become nothing more than "a second opinion." My function as researcher for the Hillside School was still quite opaque at that time. In order not to evoke too many and too great expectations I would leave it that way. The headmaster organized a meeting with all the relevant people in order to give me the opportunity to present my research design. When the participants realized that there was no filling out of questionnaires or statistical research planned and that I wanted to learn from them as an ethnographer, their initially slightly critical attitude toward my research on these grounds diminished. But a somewhat sceptical attitude toward research in general has not vanished completely even today. I got the addresses of the two teachers who were doing the lab school and they welcomed me in their classrooms. This turned out to be a pleasant and stimulating experience for me as researcher. Once there, I participated as a kind of interested visitor, without any further function in the setting. Classrooms of the kind I visited turned out to be suitable places for field research. Paper, pencils, note taking, the running of electronic equipment, and even visitors are routinely observable there, so the ethnographer does not stand out or need to be concerned about the effects of taking field notes or using an iPhone for photographs and making video recordings. My data consists of the field notes stemming from about eight hours of participant observation in two classes, some short video recordings, around 30 photographs, and four interviews of varying length from fifteen minutes up

to two hours.

At the moment the study is just an early exploration for what is planned to become a bigger and third party funded research project later on. The findings reported here are preliminary, somewhat sketchy, and intended to serve as a starting point for more exhaustive and systematic research.

2. Into the Classroom: The Domestication of Digital Technology

One of the first and most sustained impressions the ethnographer gets upon entering into the two classrooms in the Hillside school is the massive assembly of all kinds of physical “things” or objects. The walls are covered with posters, handmade drawings and printed writings. There are filled bookshelves, musical instruments, stereo sound equipment, furniture for the pupils and the teacher alike, school bags, tables with coloured pencils, pads of notepaper, different sorts of handicraft work displayed on sideboards, plants, rows of folders in different colours in shelves, and in one classroom even an animal cage filled with sawdust as a home for mice plus a fish tank.

The symbolic centres of the rooms are discernible by a black board in the classroom of the minors and an electronic whiteboard close to the teacher’s desk in classroom of the higher grades. And while the arrangement of the pupils’ desks differs—in one case there were two groups of opposed desks and in the other case a hoof-like arrangement—the computers in both cases are kept separate in the background and turned away from the spatial and symbolic centre of the rooms. In both cases the computers were set up in rows and they integrated seamlessly into the other serial orders visible so easily in the classrooms. Looked at it this way, the computers become just one more artefact in a huge assembly of physical things. They all represent different forms of knowledge like alphabets, arrays of numbers, and icons of belonging and identity of how certain animals live. The computer is but one more artefact in such a setting and becomes domesticated (Berker, Hartmann, Punie, & Ward, 2006) into the local setting of a classroom. This observation illustrates the very material aspect of teaching and learning, where “pointing at things” and “showing or demonstrating something” (Prange, 2005) characterize a central domain of the pedagogical practice.

But the computer—no matter how domesticated it finally gets in the school—nevertheless introduces an element of challenge into the classroom too. One important domain is an easily observable, but nevertheless also easily overseen, feature of computer work. In native terms it comes in pupils’ phrases such as “he [it] did not eat [accept] it, give it again!” or “now he is doing again something he shouldn’t do” or “he does not obey me” and so on. Or the teacher warns a pupil in front of the electronic whiteboard: “Watch out! This is an insidious tool!” Here every computer user must get accustomed to the fact of systems not performing in the intended way and be aware of this while operating on the machinery. Even a well set up system with standard software can very quickly get into a dysfunctional state for many reasons: technical complexity, software particularities, hardware features, incompatibilities, poor programming, someone having touched a system too hard, a switch not plugged in properly, and so on.

Due to the highly routinised and expected character of such ICT work, the users interpret this as “not really important,” “only a minor problem,” “something we can handle,” “happening all the time,” and so on. But exactly this introduces an endless chain of “situated repair work” (SRW) into the settings where the pupils and the teachers work with computerized systems. These kinds of SRW-actions can be encountered on different analytical levels. First, on the *physical level* where power cords are not plugged in fully, earphone

jacks do not connect properly, mice do not react anymore due to a stained trackballs, monitors are set to dark because someone touched the switch, and so on. Second, at the *software level* some routine-troubles lurk in nearly every system, as I will demonstrate later on. And finally there are *categorical and semantic difficulties* arising for the pupils with the tasks the PC assigns to them. A nice example of the latter and of the effect of anthropomorphism as a scheme of interpretation with children was illustrated by the following observation:

A girl in the second grade started working on software designed for learning pronouns. After she successfully logged into her account and started the program by clicking the icon with the mouse the screen of the learning software opened and an introductory example was offered. The boxed text came up letter by letter and displayed “This is my house” and a picture with five different houses was shown where one was highlighted by blinking as soon as the my was filled in. A line below that a fill-in task appeared: “Show me ... house!” About ten seconds later the gap was filled by “your” and another house started blinking on the display. So the request of the program became clear: fill in suitable pronouns and click on an image to continue. The next box on the screen showed: “This is my pet” and a picture of a mouse started blinking. Then came the task: “What is ... pet?” The girl filled in: “horse,” but there was no horse on display and obviously she should have written “your” and selected one of the images offered by the system. So the program gave feedback by a falling sound and presented the task again. The girl looked puzzled and a little upset and told to me: “How can he be so nasty and refuse my pet?” Then she stopped the software, left the computer and went to fetch a picture of a horse out of a folder in her backpack. She came back to me and triumphantly remarked: “This is my pet!”

The girl had applied a social rule of reciprocity to the computer: if someone is allowed to show his or her pet, then, the expectation goes that this person must also accept the demonstration of the pet of the other. This can be generalized to other objects and realms, if the actors interact as humans. But obviously no PC is programmed this way or can apply such a situated rule, and hence the girl became confused due to the fact that she misinterpreted what a PC is: a machine.

By far the most and easiest observable situated repair work happens during software use on the electronic whiteboard. The following description has been selected to demonstrate this basic and general feature of working with ICT equipment in the classroom: the public handling of human–machine interfaces as a subset of practices in the domain of handling the computer in general.

A girl and the teacher stand in front of the electronic whiteboard, which displays a notebook with two pages. On the left side we find a text, which allows the selection of different tasks, namely, additions and subtractions. The girl proposes one to the teacher. He agrees to a calculation involving two five-digit numbers. The girl has to write them on the right side and then underline the numbers. While she can write the numbers on the electronic whiteboard quite easily, she is not capable of activating the ruler with her fingers. The teacher has to help her to position the ruler in order to get a straight line under the numbers. The calculation takes the girl three minutes to perform. Then again she tries to underline the result, but in vain. The ruler does not respond. The teacher acts again and puts the ruler into place. The girl underlines and tries to move the ruler down slightly in order to get a second line since the results need double underlining. Again, she fails to do so. The teacher helps again. But this time he also has some trouble getting it right. The ruler displaces itself under the teacher’s touch into an angle and moves up over the figures. He has to grasp the ruler with his finger

tips a second time after release and finally succeeds in bringing the device into the desired and required position. The girl can now draw the second line and finish her task.

One of the astonishing outcomes during the calculation of one five-digit addition is the fact of the three failures by the girl using the virtual ruler displayed on the e-whiteboard and hence the three interventions by the teacher in this regard. And if we look closely, we can see how the difficulties with the ruler increased each time from once to three times. Out of a total duration of 272 seconds, there was a need for 60 seconds (roughly a fifth of the overall time) of situated repair work in the form of “alignment activities” in order to use the ruler properly on the electronic whiteboard. In this description of a short video we learn to understand how challenging it can be “just” to handle the interface. What also becomes visible and intelligible is the fact that the learning of mathematics here is a joint and fine-grained interactive task of cooperation between pupil and teacher in a physical, social, and symbolic space at the same time. Hence it would be misleading to assume that cognition is only in the heads of the actors. What we see is a series of coordinated interactions oriented mainly toward the human–machine interface in order to get the calculation done.

The last example of human–machine interface work in the classroom involves the story that gave the title to this text. Sometimes ICT technology also requires workarounds due to the poor fit of the design of the interfaces for children.

Two girls got the job of continuing with their work on rodents. All pupils in the class had to prepare a fact-sheet on a selected rodent using Microsoft Word and to elaborate a PowerPoint demonstration, which would be displayed on the electronic whiteboard and discussed in class thereafter. The teacher asked them to find further information in the web on beavers, the rodent the girls wanted to report on. They moved on to the computer and after one of them had done the login, they started the browser and opened the Word software, and the other one said: “You do the letters, I will take the mouse!” In this joint operation mode they fulfilled the task that had been assigned to them.

This workaround on a standard PC keyboard is not surprising, given the small hands of the girls. Furthermore, pupils in this primary school do not learn how to use a qwerty keyboard with all their fingers. This is only a subject in the curriculum for pupils at the secondary level from 13 years of age up. The cooperative and smart solution for the girls of a kind of division of labour is not without its snags. They run the risk of habitualizing an unreliable procedure—not all work on the PC in school can be done together, later on they might encounter difficulties when they have to switch to standardized handling of the keyboard—due to unfortunate physical properties of the interface.

3. Conclusion

Interface work is one of the basic activities with ICT equipment in the classroom. Often it involves interaction between teacher and pupil, pupil and pupil, and the teacher or a pupil and the audience. In these sequences, where the machine is brought into working conditions to perform a task (whether it is dimming the intensity of the display, underlining the results of a calculation, displaying a slide-show, playing a piece of music, and so on; or, if we look at the electronic whiteboard, providing input into a text file, opening and searching using a search engine, saving a file in the right place etc.), the obstinacy of the technology in use emerges. While adults can interpret this as being a feature of a technology, the children commented slightly differently. They discovered something of self-will in the computers when they used them, and hence they

used anthropomorphic metaphors as a cognitive means of access to the systems, which were machines. What also surprises a systematic observer is how much time is needed to get the ICT running the desired way.

As we have seen the PC and other ICT equipment in the classroom does have an impact on the everyday order in the classroom. But the impact is less visible on individual and personal competence in certain subject matters than on situated cognition where things are done cooperatively. This is how things are done together under this regime of technology in the classroom. Many of the new demands introduced by ICT are trivial (a machine needs to be switched on and off, buttons on the screen must be pressed, print commands get executed) and they are easily handled by teachers and pupils alike. But other matters such as the interface work and other aspects of the domain of “handling ICT” in the classroom are not. In particular, the answer to the question about what is an appropriate interface for children remains unclear. What is desirable is the development of a sound foundation of knowledge about ICT in the classroom, which is based on a framework of pedagogy, sociology of knowledge, ethnography, and maybe even media theory. Such a foundation would then allow us to answer the basic question of how and what children learn with ICT in school, besides making systems run.

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An ethnographic approach to researching students' experiences of silence in university classes

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Abstract

This paper gives an account of a collaborative research project conducted in the context of the class Arts-Based Research, which is part of the core curriculum of the Fine Arts degree at the University of Barcelona. The research takes form when students decide to learn to investigate... by doing research together. The group decides to focus their investigation on examining how they give meaning to the experiences of silence in university classes. This question opens a process of inquiry where stories, pictures, readings and discussions in the virtual campus converge, generating a set of evidences that the authors research ethnographically, exploring not only the meaning of question that drives the research, but the ways in which the process of inquiry was narrated.

An ethnographic approximation of the experience of silence in university classes through exchanges within the virtual campus

This study originates in a moment when students agree to learn to research... by researching. The group who participated in the class Arts-Based Research, an undergraduate course in the Fine Arts College of the University of Barcelona, decided to carry out research on how they related to the experience of silence in their classes at the university. In order to address this focus, an inquiry began that generated stories, images, critical readings and debates within the virtual campus. All this activity produced a collection of evidence that allowed the group to explore not only the meaning behind the question that spurred the research, but also ways of accounting for the research process itself. The adventure ended in three formats: as a written text (Pujol, Rios, Servall, Hernández-Hernández & Onsès, 2012), an audiovisual narrative and an exhibition that showed the network of relations constructed over the length of the course (Figure 1).



Figure 1. Map of the relations that emerged from a class on Arts-Based Research.

The research allowed us to carry out the study between “boundaries and connections, especially between the ‘virtual’ and the ‘real’” (Hine, 2000: 64). The virtual was located in the multiple exchanges and contributions within the virtual campus; the real in the gestures, looks, and phrases that took place in the early morning hours of class on Mondays and Tuesdays, in the tired bodies that were present. However, this is only a technical distinction, as both ‘places’ were configured as spaces where the experience of silence could be researched.

As we have stated in an earlier work (Hernández-Hernández, Sancho & Fendler, 2012) making boundaries and connections is a way of looking at reality differently; it is a practice that situates ourselves in reality and provides a way of narrating our experience to others. If every study aimed at (de)constructing limits and revealing connections, such that the invisible becomes visible, to the extent that the virtual becomes part of ‘real’ time and space, not only would the ethnographer’s field expand, but also, the relationship of intersubjectivity (Beaulieu, 2004) transforms, problematizing the role of the subject in a virtual ethnography.

The process began in mid-October, 2011, when the class was undertaking an exploration of the genesis of the narrative turn in the humanities and social sciences (Connelly & Clandinin, 1990; Kholer Riessman, 2008). At that moment, the students received a question raised by the professor: “How would you feel about going beyond the study of narrative inquiry, to do a research that would allow us to experience what it means to use this methodology?”. The answer, guided more by intuition than any certainty about what this would imply, was unanimous from those present at that early hour, “Yes! Let’s give it a try!”.

This paper will try to narrate what happened (to us) after that moment. Even though it is inevitable that we will reveal how we went about generating texts, weaving together conversations and sharing our thoughts in ‘virtual’ and ‘real’ places, where we began to make sense out of what our adventures were allowing us to learn, about ourselves and others. Instead, what will aim to do is, above all, narrate what this process meant to us.

As part of the research process we brought together different evidences (stories and images that represented our relationship with silence in university classes; our resonances to what others shared; class moments that had been filmed; snapshots of different moments in the classroom...), which we needed to organize and analyse in order to share the work with other research groups, teachers, students and, more generally, anyone interested in arts-based research (see Figure 2). And now, those interested in online ethnography.



Figure 2. Screen shot of the home page of the virtual campus for the class, showing the number of new messages (79) left in the forums since the last log on. This screen shot was captured by Rachel halfway through Christmas break, 2011.

As tends to happen in all ethnographic research, what we proposed to do involved choosing a format and a mode of analysis that would allow someone who did not partake in the investigation the opportunity to recognize him or herself in the work, and live what happened to us in their own way.

After extensively thinking about what to do with all the evidences that we had generated in the virtual campus, and asking ourselves which history we could tell with them, we agreed that what we wanted to do was share how we carried out the research about our experience of silence in university classes. And, how we have represented this experience with a paper, an exhibition and a video narrative.

An ethnographic inquiry: the virtual campus as a territory for researching the experience of silence

Emerging ourselves in what happened in between the real and the virtual (a distinction that is merely strategic) has led us to recognize, as observed in Hernández and Rifà's (2011:9) research into the changes in the profession of university professors, that “the personal stories we write do not respond to a template, or pre-established script”. We posed open questions that served as a way to frame the situation, and which allowed us to explore, from our different perspectives, ways of understanding our relationship to silence.

We agreed that our research question would be “What does silence mean in a class like ours?”. To respond, we wrote and posted autobiographical stories, in which we reflected on our own relationships to silence, in the virtual campus. To help with the writing processes, we were guided by the questions, “How do I relate to silence in the context of this ABR course?”

It was thus that we decided to embark on a quest to understand the silence, armed with the epistemological position and methodological tools given to us by the “arts-based research” (ABR) method (Baron & Eisner, 2008; Hernández-Hernández, 2008; Knowles & Cole, 2008; Marín Viadel, 2005), which we had been studying in the course, parallel to our collaborative research process. This research process can also be re-told, as we have the occasion to do now, from a different point of view: by considering how we narrated our experience, both of the research and of how it developed in the virtual campus, as an experience of online ethnography. As such, as we have written elsewhere (Pujol, Rios, Servall, Hernández-Hernández & Onsès, 2012: 4):

We must still keep in mind that in the moment when we began our project, the subjects involved were not aware of the potentials, necessities and difficulties in the work process that we were about to put into practice. Rather, it is just now, as we find ourselves at the end of the project and looking back on what we have accomplished, that we recognize the reach of the materials that we generated in the virtual campus throughout the course. Precisely, one of the first experiences that we undertook together in order to create research material was to narrate our own stories, using the text format to write our relationship with and the meanings we drew from the spaces and moments of silence in the classroom. [Authors' translation.]



Figure 3: Starting at 8:15 am, little by little, the circle begins to fill.

It was these questions, and a strong dose of curiosity, that triggered a writing process, which the participants undertook as they wished to, rather, as they knew how to. The contributions were personal reflections that spoke about the authors' feelings, different moments or events from the semester, personal processes, and so on, as long as it related to the experience of silence. A dialogue emerged between different temporal moments in the lives of the participants, without forgetting that narrating one's self implies locating your story in an historical and social context. It was inevitable that moral and ethical questions that affect us were brought into the discussion.

Regardless of where these stories were being shared (in this case in the virtual campus), the important thing was that through these different narratives about how silence was experienced in class and also, in some cases, in day-to-day life, gave the topic greater complexity and difference, essentially expanding our understanding of the term. What's more, the act of narrating actually configured our relationship to silence. Converting memory into text, our experience of silence was personalized and shared.

In narrating and sharing our personal histories, and by using them as the basis of the research we were developing, new narratives and new fictions were written (Clandinin & Connelly, 1990:2). This building and rebuilding, writing and re-writing oneself, was repeated until the research came to an end, and had come to resemble the task of the ethnographer of whom Geertz (1988) spoke about, who articulates the evidence produced by imagined ideas.

What we aimed to do, following Carol Mullen, was avoid a unilateral representation of the other, and participate in creating horizontal relationships that allowed the participants, and also those who would receive the research, a representation that they could create and claim as their own. Thus, our emotional implication in the research should also lead to an improvement in our own lives (Mullen cited in Hernández, 2008: 112). This implies, as demonstrated in the doctoral thesis *Subjectivities in transition*, by Alfred Porres (2012: 35), that “narrating this process [in our case, the way in which we made sense of the silence] responds to a commitment to showing how knowledge is constructed in an investigation.” Such that, “writing about what we have lived is much more than explaining what happened”.

In this sense, the research between the virtual and the real was a complex space, the representation of which cannot be resolved with a continuous, linear re-telling. This is why it is important to be aware of how we gave meaning to our experience of silence and how the “discourse changes each time the story is told, due to the new information and new circumstances that influence its telling” (Porres, 2012: 36).



Figure 4: Silence is not an absence of words, but the emptiness in which we can find our own self. – Fernando. Fragment from a story posted in the virtual campus.

At some point, with the course in full swing, it was decided that we needed to draw together everything that had happened and revise the material generated in the virtual campus, in order to give it some form – narrative, textual or visual – that would allow us to share our research experience in other contexts. We had texts, messages, photographs and video sequences relating to our quest to study silence, and there was great interest in putting this diverse range of evidence to good use. In order to undertake this task efficiently, the class formed three groups, each one of which centred on developing a different support: a text, a video and a more heterogeneous group that ended up reflecting on the course and adapting their analysis into a rhizomatic exhibition (see Figure 5).



Figure 5: Fragment of the rhizomatic exhibition that represented the process of the course.

The group who wrote the text decided to build the narrative such that the article represented multiple voices, in an effort to portray and suture together, to the greatest extent possible, the plurality of the stories and meanings that had been that strewn about over the course of the research experience.

It is important to note that the platform for sharing online documents – the course's virtual campus – facilitated the incorporation of different voices into the text. At the end of the process, a complex puzzle had emerged, with different voices clamouring to be heard. Giving order to this cacophony meant negotiating with other group members and the painstaking task of getting the approval (and disapproval) of different fragments of the text. For this reason, it is crucial to recognize that in the end, the text the recognition of different voices is subject to just a few people from the whole class.

In spite of this, the strategy that underlies this way of weaving together a story from different angles and perspectives is to permeabilize the writing within the discursive restrictions of an academic text. Instead of relating what happened to use, we discuss what we thought happened to us, in line with the practices of narrative inquiry that had inspired our work. Our project involved revealing the web of relationships that made the research possible, working from diverse view points and representing elements that made our experience meaningful (our thoughts, feelings, proposals, desires, and so on).

The role of the virtual campus

For students, this course – focused on research methodologies – marked a departure from their understanding of what it means to “carry out their' studies” in the Fine Arts College. By choosing to engage the course material through a collaborative research project, the students began to re-situate themselves in relation to each other, to the teacher, and to the course content, modifying their role as students and artists and coming to inhabit newly-formed identities as researchers.

Before the classroom lost its silence, it became clear that the forums in the virtual campus had become a place of lively interaction and debate. The campus was the place where the collaborative research was born, and it became a space where the students and the teacher developed and narrated their own relationship with the course. We believe that the platform itself played an important role in the type of participation the students were able to engage in.

Using a message board meant that responses could be formed, edited and shared at a pace, and in a format, determined by each individual. Notably, the asynchronous nature of the forums, where participants posted on their own time, did a better job at mitigating the quiet pauses that, in the classroom, were a cause of concern. There was no expectation of an immediate response and instead of being marked by silent, shifting bodies, the forums were an articulate hub of activity.

The major study *Hanging Out, Messing Around and Geeking Out. Kids Living and Learning with New Media* (Ito, et al, 2010) has argued that one of the biggest changes that ICT-use introduces to learning culture is the way it allows for new methods of participation. Within this volume, Patricia G. Lange and Mizuko Ito have discussed how different uses of media by youth are centred on creative production. While writing and posting in a forum is not, per se, the type of creative production that Lange and Ito are concerned with in their chapter (focused on audiovisual production using pre-existing materials), the way they describe participation in this case accurately characterizes what we observed in our research experience. Lange and Ito discuss the difference between an “active/creative” versus a “passive/derivative” mode of engagement (Ibid: 246).

Asking students to take part in collaborative research, in order to learn to investigate by investigating, was an invitation for them to actively become participants in the course. More specifically, by deciding to carry out the work in the virtual campus, the evidences gathered were reminiscent of the type of user-generated, remixed content described by Lange and Ito as creative production. The forum was filled with a mix of written narratives and brief responses in the form of texts, hyperlinks and images. The open-access platform and threaded discussions made it easy to share information and leave comments that expanded the conversation, without time constraints and with easy-access for linking to other sites, sharing documents, and so on.

The students themselves were aware of the way participating in the virtual campus differed from and impacted not only the course as a whole, but the classroom experience. Near the end of the semester, students valued how the collaborative research project had brought the class together as a group, and remarked that before using the forums (where people have their name and photo attached to their comments), not everyone knew each other, or had spoken directly to one other, until being thrown into 'conversation' in the forums, in our collective effort to unravel the meaning of our silence. During one session, a student described the activity in the virtual campus as the “void that forms part of our class”. The comment struck us as interesting because, at that late point in the term, the forums were anything but empty. Instead, the student appeared to be commenting on the not-quite-thereness of the virtual activity. The online exchange carried out throughout the week was always implicit in discussions, a negative space that had a place in our classroom.

The dynamic that emerged in the play between the activity in the virtual campus and classroom participation illustrate, in important ways, conclusions drawn by Douglas Thomas and John Seely Brown (2012) about the new shift in education after the dissemination of Web 2.0 technologies. First, as we saw in the virtual campus, the technology made peer-to-peer learning easier and more natural, in opposition to class discussions (the absence of which spurned the inquiry into silence in the classroom in the first place). Thomas and Seely Brown have noted that social media and other new technologies have fostered a new mode of collective participation, where the talents and skills of a group add up to more than a sum of their parts.

For these authors, the collective – characterized by fluid relationships, shared interests and mentoring roles (rather than student/teacher identities) – marks a new mode of learning culture. For us, the expectation that the entire class should collaborate during the research process, and the very collaboration itself, was a decision and commitment that evolved over time, as we came to learn about what each person could contribute by reading and responding to each other's contributions in the virtual campus. This digital platform was not only the tool, therefore, to carry out collaborative work, but a medium that specifically generated a collective dynamic for our research and dialogue. As Thomas and Seely Brown describe it, “collectives are not solely defined by shared intention, action, or purpose (though those elements may exist and often do). Rather, they are defined by an active engagement with the process of learning.” (Ibid: 52)

Second, carrying out a collaborative research project by using the virtual campus to produce and collect evidences led our class from a teaching-based to a learning-based approach. For Thomas and Seely Brown, the difference between the two lies in whether culture is the environment (wherein participants adjust to the norm, i.e., a pre-established classroom dynamic) or whether culture emerges from the environment (wherein participants take part in creating the actions and expectations that circulate a given environment). Their description resonates with our experience of the semester, during which we learned, along with the students, the different meanings of silence in the classroom.

The final point we draw from these authors is their dual definition of “culture”, referring both to a set of shared practices, traditions and values, and the experimental growth that scientists cultivate in a petri dish (Ibid: 37). It is appealing to imagine the virtual campus as a petri dish of sorts, where the unregulated interaction of comments and messages grew into our research project. In other words, our investigation generated led a culture (in the biological sense) in terms of the new knowledge it produced about how we attributed meaning to silence, and also allowed us to get to know and become part of a culture, by training ourselves in arts-based research methods and coming identify ourselves as researchers.

The evidence in the virtual campus, narrative threads

Without losing site of the initial question: what does silence mean in a class like ours?, it becomes clear that when analysing the content of the material left in the virtual campus, other themes and issues emerge.

The first theme had to do with our understanding of what silence meant, to a lesser or greater extent, what causes it and its source. The meanings of silence emerge from different causes, according to each of us, although some common meanings did surface from the group's contributions.

The majority of the group understood this silence as an inherent position of the role of the passive student, reproducing a dynamic of formal education in which most of the students had been educated. In the traditional context of lecture classes, silence becomes ceremonious and transcendental in a formal and serious setting. Related to this association is the notion of silence as a comfortable role students can assume within the pedagogical relationship. This posture is a refuge from assuming more responsibilities in one's own learning process, beyond memorizing and reproducing information.

Another prominent idea that emerged was the discussion about how silence, just as dialogue, could be an imposition on behalf of the professor. On the other hand, it was observed how the position of superiority that is socially bestowed on teachers can be a cause of insecurity, when transmitting what should be learned in class. In both cases, silence was valued as a reflection of the lack of decision-making power in the learning process, and even in life generally, due to the acquisition and normalization of determined roles. We saw this factor in terms of silence as a collective approbation of 'keeping quiet', a sort of empathy expressed towards other classmates, a result of the lack of confidence in ourselves and in one's self, for fear of being judged and of meeting disapproval. What's more, the role of silence was fuelled by its link to an intellectual inferiority complex; some times in relation to classmates, and sometimes in relation to the intimidation felt when facing a professor.

As expressed in experts from student's message in the virtual campus, silence was often a symptom of fear:

Many of us found ourselves on the verge of collapse, in the middle of a rush of new information, just as the professor would address a question to the class. We felt that we didn't have the resources to relate to new information. This left us feeling insecure, it created tension and we were fearful about breaking the silence with our own words. We felt pressured and, at the same time, paralysed by the immediacy of what we were supposed to do, give an answer.

[Authors' translation.]

Opinions in this line of thought expressed how it was difficult for the group to find their own words, to respond to the professor's questions. Also discussed was the lack of experience (or inability) in terms of expressing one's own opinion and forming a position. Some messages expressed the sensation of feeling like

class contributions were more valid if they were more complex or based in theory.

While silence itself is incompatible with debate... it is capable of creating a dialogue, of being a cause. – Magdalena [Authors' translation.]

Opposing this characterization of an uncomfortable silence, others felt at home in the pauses, seeing them as a refuge to their shyness or introversion. Others took the silence as an exterior that camouflaged a profound internal dialogue that produced reflections, connections and clarifications. In other words, silence as a necessary pause for breathing and understanding.

Others still described silence from the position of an expectant observer. Some students named this silence as a learning silence: a space to learn from others, an ability to keep quiet in order to listen. We also named an “integrated silence”, a silence evoking certain qualities from Eastern philosophies, understood as an interior need to simply be in balance, enjoying the quiet. Thus, within the group participants were more or less worried about the silence, as a result of what it meant to them.

Silence is a prelude to something that will come afterwards, like getting a running start before taking a leap. What comes later is worrisome. – Ainara [Authors' translation.]

In addition to a general consideration about the meaning(s) of silence, we focused on the idea about what silence could mean within, specifically, our arts-based research course. We agreed that an important element was having the class at 8:15am on Monday and Tuesday mornings, where sometimes the early morning hour provoked a silence so dense with thoughts and feelings it felt like you could cut it with a knife. The classroom became a pressure cooker, about to explode.

Our reaction to this heavy atmosphere was to ask ourselves why we paid attention to the silence in our class. We perceived it as a problem, which led us to posit the interpretation of this silence as a research topic. If at first we observed how external circumstances obliged us to adopt silent postures, later we asked ourselves whether this was the whole story, and if it had to be this way. Through this process we created a shared awareness of our group's collective decision-making power in terms of our silence. By recognizing our agency, our understanding changed and we began to see, above all, how our relationship to silence demonstrated our different ways of learning to be.

Conclusions: what remains in the margins

The research is like a photograph: it captures experiences, it is a representation (a story), it responds to a particular gaze and is conditioned by a frame (perspective). In this sense, the diegetic limitations of representational forms affect all research narratives. The problem lies, precisely, in negotiating how to smooth the feelings of inadequacy, how to face the impossibility of giving an account of what happened without excluding the gaps and absences that reside in the margins of what is being represented.

Demonstrating that we don't have anything under control is a way of keeping this narrative coherent with the research process. Thus, it seems fitting to end by revealing the weaknesses and fractures in each. Choosing how to represent something is always problematic. When writing we label what happened and, in doing so, some things are given priority over others. (It is impossible to describe everything, so it's necessary to make a selection.)

Indeed, the last stage of the research process – when we must complete the narrative – is arduous, in the sense that we must decide how to reach a conclusion together, without homogenizing all the particular

voices. Faced with this dilemma, we realized as a group something obvious that had gone unnoticed: each participant experienced the research process differently. This means that everyone would tell our story differently, manifesting their own particularities of the experience, causing a fundamental problem among us when we needed to reconcile the research process. At this point, we began to think about what decisions were behind the process, and what remained invisible in the narrative.

Is it possible to represent a collective experience of silence, in a transversal and fair manner? How can we embrace diversity and dissenting opinions and positions from within the group, while tacitly acknowledge the limits to this proposal?

Clearly, the concern that these questions regarding the visibility and fractures of the research experience provoke demonstrates that the investigation was a fruitful process in terms of the richness and diversity of materials it generated. Moreover, feeling lost or conflicted was itself an important part of the quest we undertook, and this experience should be valued as an important part of the learning process. It was this uneasiness, after all, that led us to turn the virtual campus into a research terrain.

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Sketches for a conceptualization of dramatic autoethnography in educational research

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Abstract

This paper aims to contribute to the conceptualization of theoretical and methodological frames that inform dramatic self-ethnography in educational research. The multiplication of the self into several others and the creation of avatars and virtual communities, as well as the development of dialogues based on performative writing encourage critical reflection on education. Unfolding into a multiplicity of identities fostered by virtual world, a reflection of education is no longer self-centered and dialectic, but acknowledges the tensions and dilemmas that become more aesthetic than scientific.

This work assumes that the creation of autoethnographic and dramatic worlds humanize the educational problems and challenge the dominant ideologies. The paper ends by concluding that the dramatic autoethnography fosters the deconstruction of neutrality and the commitment to change. Above all, the work assumes that dramatic autoethnography can help us to reflect on our own conceptual schemes and their descriptions, confronting them with the revelations of our experience as human beings.

Introduction

Opposing the reductive tendency to make everything objective and quantifiable, some individuals, inspired by phenomenology, feminism and arts, have been promoting the paradigmatic and methodological changes that allow the researchers to become more socially active and critic. These new paradigms have renewed the importance of narrative, autobiographical and artistic research. Although still emerging, the arts-based research shows width and diversity, highlighting multiple trends and orientations. In addition to appearing nowadays as a methodological frame of reference, the arts-based research has been renewing the study of humanities, encouraging many researchers to face, in a creative and audacious way, the issues that effectively concern them, which has promoted politicization and even the spiritualization of the processes related with the creation and sharing of knowledge.

In this paper we assume that the dramatic creation, assuming a single personality or deploying it into multiple selves, held on the first or third person, directly or indirectly, can be used to give meaning to the world and thus to the experience of knowledge.

Dramatic art research

The adoption of the artistic and performative framework in the research acknowledges that there are fundamental experiences and knowledge that are not compatible with a unique way of seeing and being in the world that is supposedly objective, stable and universal. The artistic outlook reveals a world of human potential, obtaining knowledge from what Gadamer (1977) calls "psychological tact." The concept of tact allows the researcher to abandon the standard methodologies in order to claim other ways of asking that are unattainable for empirical sciences. For Gadamer (ibid. 45) the concept of tact implies a "sensitivity and an ability to perceive situations as well as the behaviour within them when is not possible to obtain knowledge based on general principles". This property of human knowledge, in addition to challenging the exclusivity of the positivist methodology, fosters the recognition of epistemological metaphors and artistic languages. Thus, the problem of the construction and validation of knowledge excess the exclusivity of the methodological boundaries and turns itself to the fact that the human beings possess an internal dynamic contradiction that theorizes the dramatic experience of the world.

Promoting the incorporation of several voices in speech, the drama encourages people to challenge the installed silences and to think critically about the issues that surround them. The dramatic practice is based on the procedures which allow multiple ways to tell and to relate to different realities that, in turn, are revealed by diverse aesthetic sensibilities and nuances. Therefore, the primary challenge triggered by dramatic methodology focuses on inconclusive reflection, not referring itself to a unique and correct interpretation, but unlocking the voices that allow alternative ways to see the world.

Saldaña (2005) tells us that dramatic research can be based on the words spoken by others or on the words created by the researcher himself during the interpretive process. Munro (2007: 122) states that the processes of research based on dramatic narratives can be encouraged by the idea that there is a "political and moral imperative that things must change."

The dramatic imagery permits to explore the myriad of possible relationships between people and ideas, opening the thought to forms and contents that are inaccessible through more formal academic writing. Above all, the dramatic and performative text provides the indispensable space for multi-interpretation, a space where one can experience, simultaneously, the evident and the subtext, the justification and the interpretation, the uno and the multiple.

Look at a brief example of a performative and dramatic text about arts and education, which we titled as Inverted Pyramids.

<p style="text-align: center;">-----COMMON CHAT-----</p> <p>«Elder_70» --- You are not eagles. Which is why you haven't comprehended the blissfulness of terror in your minds. And if you are not a bird, then beware of coming to rest above an abyss."¹</p> <p>I was just faced this phrase from Nietzsche. Accept it as an epigraph to our conversation in the inverted pyramids. Have you seen my new avatar?</p> <p>«Feliciano» The phrase is interesting. lol. I also like the avatar.</p> <p>«Ian_Curtis» 😊 I like your avatar, Elder. Here we are all eagles, we are in inverted pyramids. I'll post the words of Nietzsche on my blog.</p> <p>«Elder_70» Ian_curtis, I have to tell you that</p>	<p style="text-align: center;"><u>ON LINE</u></p> <p style="text-align: center;"> Ancião</p> <p style="text-align: center;">.....</p> <p style="text-align: center;"> Feliciano</p> <p style="text-align: center;">.....</p> <p style="text-align: center;"> Ian_Curtis</p> <p style="text-align: center;">.....</p>
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yesterday your blog was offline. I Had just suggested it to some students. We were all very sad to realize that it was inaccessible. 😞

«**Ian_Curtis**» 🤖 It's true. The server was down. But it is now accessible again. I have just added a text about the role of the arts in contemporary society.

«DIOTIMA ENTERS»

«**Diotima**» Hello everyone. I am looking for inspiration ...You come with an eagle on your chest Ancião_70!!!

«**Elder_70**» lol. Not at all. I have just decided to use this avatar to encourage us to see farther. To incorporate the edgy spirit of the eagle, to free our thoughts.

«**Diotima**» Thank you. I am in need of it.

«**Ian_Curtis**» You are in the right room.



Welcome to the inverted pyramids...

«**Elder_70**» You know ... here we share a single commitment: to inquire the truth.

«**Diotima**» Elder_70... my friend ... you have to be careful with words 🤖. What truth? ? We all know that truth is essentially a stipulated agreement. It seems that everything is increasingly more relative and ephemeral. What then is the truth you speak? Even more when you use the singular. Currently, it seems that everything has value, everything has its place ... 🤖

«**Elder_70**» 🖥️ 🤖

«**Diotima**» Old Man ... look at me ... you know that throughout my life I have been fully involved with commitment to arts. I have experienced them as an important process of discovery and reflection about the world and about myself. Tell me what kind of truth can I actually share in a society that is essentially

ON LINE



Ancião



Feliciano



Ian_Curtis



Diotima

determined by the dictatorship of advertising,
of the ephemeral and salable?

«**Ian_Curtis**» ... You ... Diotima ... are you speaking about the widespread misconceptions on the value of the arts in society. And I? What can I say about my life as an educator? Working in a system which is essentially governed in a purely functional way, devoid of animation, creative energy and initiative.

To tell you the truth, I have to confess that I do not see schools to be lived with the joy of discovery and friendship. Instead, they usually seem more like bureaucratic offices, a kind of a dark and accounting office, revealing no charisma, charm or emotion. I see them almost exclusively operating within an obsessive concern with certifications and rankings. 🤖 😊

«**Feliciano**» I fully agree with you. I have myself realize that some people think that education should be essentially a kind of training for the skills and competencies that allow us to get a good salaried profession, if possible, in the state. In general, education is not seen as a process of personal growth, fostered by intrinsic desire to learn and to know more. The consumer society, apart from few honorable exceptions, has limited the learning to a mere operating process; invariably devoid of philosophical, moral and spiritual significance. 😊

«**Ian_Curtis**» We all know that, in the long term, this will hardly bring positive results, because man, even by the inherence of his human condition, will always reflect on situations that affect live.² Therefore, mercantilism will never determine the free and creative spirits. History shows, for example, how the artists are among those who most unlikely let to be restrained by contracts void of reflection. The multi-interpretations of the work Las Meninas by Velázquez or Modigliani's intransigence in face of his status as free creator are just two examples, these among many that could be offered to illustrate this idea.

ON LINE



Ancião



Feliciano



Ian_Curtis



Diotima

«**Feliciano**» Unfortunately, what you have just said about the arts can be generalized to society. In schools we see something similar. I must tell you that I increasingly appreciate the small and simple moments that share the magic of artistic experience. Therefore, I endorse what you said Diotima. I also have come to realize, with increasing urgency, that the most important and significant things are usually the most simple and personal. The supposedly great ... large performances ... let me dizzy, cause me dizziness and agony; they don't enrich the mind and spirit, in any way.



«**Diotima**» I agree, when I have to talk about the importance of the arts in the development and knowledge, I often feel misunderstood, I realize, painfully, that I am frequently forced to use a language that may seem inappropriate and even offensive to some people. I find myself, inevitably, against the prevailing educational culture and against the consumerist impulses fostered by a society that seeks to sterilize the humanizing reflection.

«**Elder_70**» 'What do you think we should do then? Think a little, as people who are deeply connected to the arts and education. 🙄



«**Ian_Curtis**» We should stay in silence, do nothing, or we can simply let ourselves be involved by the usual. Thus, we will continue our careers, and, if we join up some groups and politics, perhaps we will reach the role of professors or political commissars in the area of culture. Some people have already done it.



ON LINE



Ancião



Feliciano



Ian_Curtis



Diotima

On the other hand, who knows if we will end up talking nonsense on television to large audience, or to design attractive packaging for a new shampoo to be placed on supermarket shelves.

“Elder_70»

I do not agree with what you have just said. I am of the opinion that it is necessary to have courage and to be patient. We must take a clear stance, clarifying the scope of what we truly believe and for which we have been directing our lives. If we have not been here all this time simply drawing up a hypocritical facade, we must continue carrying our lives valuing the arts as a source of knowledge and development. Notice, we have many positive examples. See, for example, how the arts have recently been positioning in the academic fields, research and therapies. There are always alternatives to pursue a job that is humanly valuable in the artistic sphere.

«Ian_Curtis» I can only agree. With my opinion I have just tried to portray a reality that we all know. Most of all, I was being ironic. I was actually being ironic. 😊

I believe that everything inevitably changes. This is what history of Western culture has exposed. Sometimes what seems impossible happens: the overthrow of most monarchies, the end of religious persecution and slavery, the disappearance of some totalitarian and tyrannical regimes. Therefore, we must maintain some hope.

“Elder_70» Sure. Now I consider that your opinion is much more positive. Of course, that we, as artists and educators, must understand the cultural world in which we are submerged. However, this does not mean we have to agree with it to get easy reputation.

«Diotima» In my opinion we should insist on a necessary and creative maladjustment. A mark of difference. Especially when the artistic

ON LINE



Ancião



Feliciano



Ian_Curtis



Diotima

imagination can help us to devise alternative ways of using language that allow the development of authentic paths of discovery, growth and epiphany.

“Elder_70» I fully agree. In this sense, our task is not to adapt ourselves to the establishment in a subservient way and to turn into a kind of superficial comedians and careerists, but become imaginative, and perseverant in the construction of the antithesis to the castrating normality. We can always open alternatives that allow some critical distance from the frenzy consumerism:

Reconnecting us with legitimate writers,
Digging inspiring biographies,
Listening the quiet flowing of our innermost being,
Walking along the path of inspiring sounds,
Turning off the television,
Adopting the silences that bless the words.
**Making reborn, at every moment,
The beginning of freedom.**³

ON LINE



Ancião



Feliciano



Ian_Curtis



Diotima

Conclusion

The more metaphorical language used in the performative writing should not be understood as a mere accessory or playful abstraction, but as an integral and indispensable instrument of the methodology adopted in this work. It was the dramatic process that allowed and stimulated the reflection on the inherent dilemmas of being a teacher and artist. It was also the aesthetic perspective that led us to reflect on the theoretical prerogatives brought together by different characters. However, this was not done by accident. It was initiated and underpinned by the preceding polyphony of multiple voices, to which we joined, living the process within our own experience as teachers and artists.

The dramatic and autoethnographic epistemology is largely born of the intrinsic need to explore, in a significant and personal way, the branches of knowledge in which the individuals move. It also comes from the understanding about the epistemological and methodological issues that can work as alternative to traditional paradigms (Conquergood, 2006). Both reasons encourage the connection with our own life experience, combined and amplified, of course, with the experience and knowledge of others. About this, Melich (2008) tells us that to understand is also to apply, to our own situation, what others tell us - in other words, knowledge is an experience unlocked to otherness.

The reflective epistemological positioning admits that the world is open to interpretation. Thus, surpassing the disciplinary boundaries, the processes of discovery becomes able to adopt the language and conceptual schemes that, at a given moment, can be considered more challenging (Biggs, 2006). In this way, the adopted

language, although inevitably influenced by several disciplinary traditions, is not confined to the limits of the subjects, nor even any more unable to challenge what one knows, lives and feels.

The biographical narratives, held on the first or third person, directly or indirectly, assuming that a person is an homogeneous unity or composed by multiple selves, prove to be crucial to explore and provide meaning to the world and hence to the experience of knowledge. This type of narrative exploration should always be seen as incomplete, insufficient and multi-alternative, admitting the possibility of several conclusive versions. It should be seen as based on procedures that allow multiple paths for exploring the realities that, in turn, are revealed by different aesthetic sensibilities and nuances (Denzin, 2003).

The prospect that has been open by the use of drama as research is exciting. It is still in its infancy. It is important that the arts gradually gain recognition in the universities as means of research and knowledge. We believe that the persons who are better positioned to instigate this development are the ones who combine artistic, pedagogical and methodological experiences and training. Also, in what this respects, we must not foster antagonisms and disputes. We are not conducting alternatives but complementarities. At best, we are exploring the new issues and methodologies that only arts can introduce through the specificities of their operations.

As educators immersed in the research and as artists interested in pedagogy of what we recognize as precious, let us not be drawn into fashion and easy solutions ... we should be cautious ... but also bold.

Notes

1. An epigraph quoted from an epigraph: Nietzsche (cit. By Valerio, 2005, p 13.)
2. We shall underline the incongruity of a society that does not promote arts education in a serious and articulated way throughout school and university life. Thus, it is possible that an individual go through all entire education system without ever having had access to the important ways of thinking and investigating inherent to the arts, without having any contact with many of the most important cultural productions of mankind. It can even happen that this individual reaches the top academic level and, with what regards to artistic and cultural manifestations, be completed uneducated, without even be aware of it.

This worrying situation is very danger. Firstly, it can turns the making of art, culture and reflection a niche of some eccentrics who get involved and talk about strange things that have nothing to do with the real live, and secondly, what is calamitous, some of these uneducated people can promote commercial and manipulative activities for mass consumption, influencing others to follow this tendency, especially if these individuals occupy, which is also possible and calamitous, important executive positions in education, culture and humanities. The danger is huge and very worrying.

3. Adapted from Abbs (2003).

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Epistemological and methodological challenges in the field of research in education and digital culture

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Abstract

The epistemological and methodological challenges identified in this abstract are the result of our experience in advising Master's and PhD students in the context of the Graduate Program in Education at Universidade do Vale dos Sinos- UNISINOS, Brazil. The challenges involve the construction of research objects and problems in the field of education and digital culture in contexts using digital technologies, such as: Virtual Learning Environments, Digital Social Networks and Virtual Digital Worlds in 3D. Establishing coherence between research object, problem and instruments, in these contexts, in the investigations of ethnographic designs, in processes of constructing valid academically and socially relevant knowledge has led to epistemological and methodological doubts which, however, are yet to be discussed. Instruments, analytic processes and empirical fields are dimensions that have required us to think epistemologically and conceptually. In the sphere of these reflections, we build questions and knowledge about the following perspectives: a) epistemological and methodological tensions involving ethnographic, virtual and digital concepts; b) players who are collaborators and researchers in digital education and culture – from where do the problems come? c) subject/collectivities immersed in the digital culture – who is in or part of digital culture? Can research be done from outside the digital environments? Based on these doubts, reflections and challenges, we believe that it is possible to re-think the term virtual, as demarcating an epistemological and methodological frontier in ethnographic research of education and digital culture. In our opinion, the term digital is better to distinguish this frontier. Thus, we also consider that the term netnography is better to distinguish the theoretical-methodological design from ethnographic research in education and digital culture. However, participating in this event gives us an opportunity, on the one hand to share our experiences and, on the other, to broaden thematic understanding by means of new discussions.

Introduction

Establishing coherence between the object, the problem and research instruments in the field of research in education and digital culture in contexts where digital technologies are used such as: Virtual Learning Environments, Social Networks and Virtual Digital Worlds in 3D, in investigations of ethnographic design has caused epistemological and methodological doubts which, however, have not been much discussed. Instruments, analytical processes and empirical fields are dimensions that have required us to perform epistemological and conceptual reflections. Within the scope of these reflections, epistemological and methodological tensions involving the concepts of ethnography, the virtual and the digital have become relevant in the processes of production of knowledge, in our experience of advising M.Sc. and PhD students in the context of the Graduate Program in Education at Universidade do Vale do Rio dos Sinos. The centrality of this paper addresses these issues.

On the social productivity of Cyberspace

The anthropological standard of “transforming what is exotic into familiar and vice-versa”, constructed in the decades from 1970 to 1980, a period that was made fertile by the theoretical-methodological and epistemological questions generated by the studies of the so-called “complex societies”, began to be questioned from the 1990s onwards in dialogues with the specificities of studies on (Levy, 1999; Santaella, 2004; Lemos 2007). Conversely, reflections on Cyberspace, during the same period, concentrated on an ideological polarity between the “apocalyptic” and “apologetic” (Rifiotis, 2010) which, slowly, become less central and are replaced by interrogations as to how relationships occur in these virtual digital spaces.

In Brazil discussions about these interrogations were held at a round table called “Information society: theoretical and methodological reflections” at the 25th Annual Meeting of the National Association of Graduates and Research in Social Sciences (XXV Reunião Anual da Associação Nacional de Pós-Graduação e Pesquisa em Ciências Sociais) ANPOCS (CAXAMBÚ, 2001). From then on, the discussion advanced and the book *Antropologia no ciberespaço* (Anthropology in cyberspace) organized by Theophilos Rifiotis... [et al.], published by the UFSC Publishing Office, 2010, is one among the publications currently seen.

After all, what changes with the advent of the Internet and its technologies, such as instantaneous communicators, digital social networks, virtual digital worlds in 3D among others? “*Homo socius*”? Society? Culture? Nowadays, having “virtual friends” may mean having friends spread throughout the planet... friends we know only by text, by photos, videos and even only by their avatar. We can follow not one, but several persons on Twitter. We are part of all kinds of digital communities – for relationships, learning, work, leisure, hobbies, sports, in short on specific topics that interest us. Thus, this way of meeting people, of making friends, of keeping up relationships, as well as studying, working, shopping, doing business, ie., of living and interacting with different instances has changed significantly compared to the forms prior to the advent of these technologies. We are living in a society interconnected by an infrastructure of telecommunications services and by different Digital Technologies (DT), that appear day by day, that create new forms of living and interacting in many different spaces and different domains of society. These DTs foster communication and interacting among people, favouring access to different environments and sources of information, potentiating the exchange of information, of sharing experiences, ideas and knowledge, collaborative production at any time and in any space.

These changes in the “*homo socius*” way of living and interacting are being gestated by the development of different DTs, which are a product and produce this same society. In this way, a constant and growing feedback cycle is created, making new forms of social organizations and sociability emerge, contributing to rethinking of paradigms. The frontiers, the borders between old and new ways of thinking and being in the world are increasingly permeable, contributing to the rise of new, “broader” understandings and meanings about what we are and what we do. This scenario has contributed to the (re) signification of old concepts, such as: community, presence, distance, territory, space, environment, place, real, virtual, interaction, and others.

Thus, developing research in the field of “Education and Digital Culture”, in these new contexts is like a constant challenge. Together with the digital technological evolution (hardware, software), there is the rapid adherence to these Technologies by a significant part of the population, academic or not, often without a critical analysis on the implications acquired by them in the field of education and culture, as well as a broader process of reflection on epistemological and methodological issues as regards research performed in this field.

It is in this context that we have discussed, from our experience in orientation, teaching and research in digital education and culture, how different research methodologies, including ethnography, respond to and problematise this field of study.

On ethnography and participant observation

The specific theoretical discussion on the concept of ethnography, paraphrasing Rifiotis (2010), has been the subject of study since Malinowski, permeating the 1980s and 1990s with the advent of the “complex

societies” and, more recently, in the relations with the field of digital culture. The author remarks that these debates have been presented by Anthropology as a whole, but that they need theoretical improvements from the perspective of other areas of knowledge which dedicate themselves to understanding the Digital Technologies and their influences on the subjectivities of the social actors, as in the case of education. Here we situate our questions: a) collaborating actors and researchers in digital education and culture – from where do the problems come? b) subject/collectivities immersed in the digital culture – who is part of the digital culture? c) is it possible to do research from outside the digital environments?

Our greatest challenge has been to validate the use of instruments, as for instance, participant observation, the field diary and ethnography, in processes of production of knowledge that will revitalize theoretical reflections in contexts of the use of digital Technologies.

Participant observation, on the one hand, requires experience obtained within the rituals observed. On the other, it is an instrument to understand symbolism and social dynamics present in the culture of a given group, by means of the researcher’s sensitivity in a way that is not contaminated by the outside perspective.

Ethnography consists in the analytic, critical and ethical description, based on the evidence collected by means of the instruments, of what was observed. Ethnography has the epistemological and ethical commitment to understand the meaning – culture – of the rituals in the social and historical context of the human group studied – perspective of the social actors.

Doubtlessly, and this is nothing new, we are talking about complex theoretical understandings, above all when they are situated in the context of research with groups that organize themselves, interact and produce culture by using digital technologies.

Philosophical, theoretical and methodological considerations about the virtual

The word virtual “comes from the medieval Latin *virtualis*, derived in turn from *virtus*, force, potency” (Lévy, 1996: 15). However, the term “virtual” has been constantly employed to designate the field of digital information and communication technologies; the current meaning is unreality, since it is conceived as intangible, as immaterial. From a philosophical perspective, virtual is what exists only in potency, but not as an act – the field of forces and problems which tend to resolve in their actualization. For Lévy, “ what is virtual tends to actualize itself, without however have gone on to effective or formal concretization; in strictly philosophical terms, virtual is not opposed to real, but to actual: virtuality and actuality are only two ways of being different” (15). Based on these first definitions of the term “virtual”, it can be perceived that the current use of the term as an adjective does not end the discussion; on the contrary, it raises further questions. What would justify my designating a “reality” as “virtual”? In the same sense, would it be appropriate to use the term “virtual ethnography”? What are the meanings and implications suggested by these adjectives?

Deleuze, proposing a philosophy of experience (Alliez, 1996), criticizes the metaphysics of consciousness and the philosophies of the object. Like empiricism, on situating itself in a linear time logic, these perspectives situate the field of research in images associated and conditioned to the field of possibilities, without taking into account the uncertainty and the becoming – “a multiplicity for each thing, a world of non-totalizable fragments communicating through external relations” (19). On affirming philosophy as a theory of multiplicities, he proposes that all multiplicity implies virtual and actual elements. “There is no purely real object. Everything that is real is surrounded by a fog of virtual images(..) The plan of immanence

comprises at the same time what is virtual and its actualization (...). The actualization of what is virtual is singularity, whereas what is actual itself is the constituted individuality” (49-51).

Such philosophical ponderings regarding the virtual and the actual, position the problem in the sense of overcoming the logic of duality, and agreeing with such ponderings implies understanding research in human sciences as a production of fragmented singularities, pieces of a continuum which is in essence multiple. In this sense the totalizing and generalizing perspectives are not justified, nor the comprehension of something virtual as false or “independent of the singularities that that section it and divide it on the plane of immanence” (p. 51).

From the empirical perspective it is a matter here of understanding the plane of immanence as an object that does not subject itself, and that continuously requires its complementariness. From the methodological perspective, it is a matter of considering time as a fundamental element, since the virtual constantly becomes the actual. In the context of the discussion that we propose to think about research in cyberspace, the weight acquired by such ponderings becomes clearer, especially as regards time and proximity. Just as we have a more intense experience with the sun, whose light actualizes to us in approximately 8 minutes, than with the more distant stars whose light may take centuries after they have gone out to reach us, we believe that the more distant the researcher is from a given collectivity – whether it be physical or digital – the less potent will be the image that they elaborate regarding the community they study. To study the distant stars, science produced instruments and methodologies that enabled studying them, and overcoming the distance. In this process, new singularities were produced, who immanence is indissociable from the very instruments and methodologies that allowed producing new images of the stars. Thus, it is not a matter of validating epistemologies and methodologies that allowed producing new images of the stars. What we have at stake is virtualization and actualization, engendered by researching itself. It is not, therefore, a matter of validating epistemologies and methodologies based only on the technical engendering that given research has been able to articulate, but also and mainly if it was capable of evidencing the continuous process of virtualization and actualization in its empirical field (the plane of immanence) in relation to the instruments and methods used or produced by research itself. As to research in cyberspace, it is not a matter, thus, of disqualifying or taking away the potency of the images generated by research in and through digital media, but rather to consider that these images concern special singularities, and that they do not necessarily actualize in other contexts. It is thus that we could say that the multiple, heterogeneous and nomadic nature of cyberspace tends to produce images with the same content, but that do not necessarily correspond to what happens in the physical context – men ‘are’ women, villains “are” heroes, defenders “are” aggressors, and vice-versa. Possibly for this reason, common sense needs to affirm the “virtual” as unreal, as a need to deny the very discontinuity or heterogeneity of the real.

Lévy (1996), based on the same understanding as Deleuze, also abandons the idea of opposition between virtual and real and between virtual and actual. He prefers to use the terms actualization (16) and virtualization (17). If realization concerns the occurrence of a pre-defined state, a field of possibilities limited to being carried out, actualization refers to the “invention of a form based on a dynamic configuration of forces and purposes” (16). Actualization is always the production of new things, a becoming that feeds the virtual. If the virtual is potency, actualization is the answer. In an opposite movement, for Lévy, virtualization is not understood as derealization, but rather as a mutation of identity, as it “begins to find its essential consistency in a problematic field.” (18). In this way, it is not a matter of taking virtual as the

potency of territories or predetermined fields, but rather virtualization, that requires understanding the problematic complexes that it engenders.

Lévy (1993), referring to culture, creates an analogy to the internet – a great mobile and mutant hypertext, in which “local singularities” participate (p. 185), that inject movement into this meganetwork. In this way, just as the oral and written cultures are territories to act as an agent for collectivities, production of various discourses and narratives, digital cultural also is situated as a potency for new becomings. Instead of the simplification of this potency as a “virtual reality”, it is prudent to recognize it as a culture that is gestated and gestates new problematic complexes that do not find a direct correspondence with the elements that so far were not present in the societies that were the object of study in human sciences. It is not, therefore, a matter of carrying out a simple and direct transposition of epistemologies and research methodologies that deal with a physical reality to a virtual one, but rather of considering the possibility that they are insufficient, or even inappropriate regarding these new contexts of digital societies.

If one considers these prerogatives as being valid, maybe one should really create new methodologies. For this purpose, one should consider – and this we wish to emphasize – that it is the problematic complex (the field of immanence) that should guide new theoretical-methodological constructs, and that possibly the term “virtual”, as in the case of the idea of “virtual ethnography”, is not the most appropriate, because it does not evidence something new for the field.

Let us take as an example the fact that, in modern societies, every citizen must have a birth certificate and all other civil status certificates, such as identity cards and tax registration numbers. This registration produces modalities of virtual existence (potency) – rights (employment, housing, health, etc.) and duties as a citizen that have repercussions on the person’s life, but that do not necessarily take place. It is perceived, from the theoretical perspective, that virtuality is not a novelty – it *exists*, whereas what is actual *happens*. Saying or classifying a methodology as virtual is to affirm it as potency, a becoming-science with all theoretical implications that we have so far presented. Saying that some methodology is virtual can also point, on purpose or not, to the idea of virtual as a substance and, in this sense, attached to the field of what is real and of possibilities.

On the other hand, let us take as an example, the person who creates their avatar on Second Life, or their profile in different digital social networks (microblogs, blogs, etc.). This person is not only creating a trace of memory with digital support, they are socializing with other people without having a geographic-spatial limitation. Besides this, they relate in a mediated form via interfaces (software and hardware) which are different from the technologies that had until now been habitual (telephone, post office, etc.), in which new media, velocities and outreach are involved. Whereas in the physical world it is unlikely that someone would introduce themselves to another person citing their I.D. number or tax registration number, today some people insist on exchanging their digital identities with the other person, ”adding “ themselves mutually to the digital social networks. It is perceived that it is not what is virtual that is involved, as a problematic complex, but rather the digital networks – it is velocities, ubiquity, simultaneousness, post-massiveness, synchronicity, among so many other problematic complexes immanent to the digital culture. In this sense, as regards research in the field of cyberculture or digital culture, instead of calling methodologies virtual, generally centred in the field of technological possibilities, we believe that it would be more appropriate to carry out a differentiation in the field, bringing to the surface the digital social networks that began to form “in” and “through” the digital networks. In this way, the terms netnography or ethnography in digital

networks, or else, online and offline ethnography (Rifiotis, 2010) would be more precise theoretical-methodological propositions for this field of research, having as a problematic complex the emergence of new modes of sociability immanent to the digital culture. However, in the same way as no ethnographer would make the mistake of limiting their research only to the field of documents related to civil records of a given community or group, ethnography online should not limit the field of research to the statistical records (logs) or to the modes of communication that are enabled by a given software or interface. Again, since the potency of the image is produced in the problematic complexes, and since the object does not subject itself, instead of problems of generalizing research, such as, for instance, “*the modes of sociability in the digital media*” – the virtual as substance – it would be most appropriate to emphasize the collectivities and their constituent elements – actors, communities, places, territories, policies, rituals, laws, values, legends, etc. In other words, ethnographic research in the context of cyberculture, no matter how obvious this statement may be, necessarily must dialogue with this theoretical-conceptual field that it intends to use, and, for this purpose, it is the ethos that brings together the collectivities that should be evidenced in the problematic complex of sociability in and through the digital media. We believe that, thus, the virtual – as substance – comes out from under the spotlights and is replaced by actualized ethnography – virtualization.

On ethnography in/from the digital networks

Netnography, virtual ethnography, cyberethnography, ethnography online/offline are new nomenclatures given to ethnography when they refer to the context of the digital technological environments. The neologism “netnography” was coined in 1995 by the North American researchers Bishop, Star, Neumann, Ignacio, Sandusky & Scharz, and it was also used by Kozinets. the term “virtual ethnography” appears with Hine (2004) in the book she authored, *Virtual Ethnography*.

As we showed, before, we believe that instead of the term virtual, the problematic complex that is presented concerns cyberculture, sociability mediated by a network of digital Technologies. Thus, the most appropriate term to demarcate a new field would be netnography. It is not a matter of saying that there is a new field simply because the collectivities use new devices or softwares, since these technologies change rapidly because of the technological evolution, and situating research only in the analysis of the resources is to make them hostages to the limited field of possibilities. An example which illustrates this was the short time in which the Internet went from an only textual interface over to another multimedia. Currently it is possible to “enter” a virtual digital world in 3D-MDVED, which allows the subject to “live” and “interact” in this space by means of the immersion favoured by the telepresence and virtual digital presence of their avatar, together with other avatars. It is a completely different experience from accessing a webpage, a blog, or else a virtual learning environment, since the subject does not browse on a page to access forums and chatrooms to collaborate with the others. He is “present” by means of a social presence – an avatar – in the place where this occurs. As in the physical presential world, in MDV3D the subjects communicate by means of a “virtual digital body”, which is part of the process of interaction with the environment and with the other subjects represented there. But this interaction in MDV3D is not limited to a fictional experience or only to the production of digital representations in correspondence with elements of physical culture or of imagination. In MDV3D, like Second Life, there are elements that sometimes converge and sometimes diverge from the physical world. In these digital communities economies, habitus, ethos, aesthetics develop, and many of these elements have produced effects on the correspondents in the physical world. Artists and designers, for instance, work and are paid when they sell their products on the MDV3D; some fashion trends are directly

influenced by these digital worlds. Fan fictions are used as an epigraph for writing and reading in several communities, in which young people and adults participate, who get together physically by their hundreds, around role playing games (RPG). Likewise, the digital social networks have produced new identities and alterities – digital “bodies” that project into cyberspace, carrying with themselves an identity, to which now is added an also digital “I”, which allows them to create networks of sociability, feelings of belonging and integration to other cultures and to the digital culture itself.

Results

In the context of advising research in the Group of Research of Digital Education at PPGEDU/UNISINOS, we have tried to articulate this discussion to problematise the theoretical-methodological corpus of dissertations and theses. Ethnographic research in and through the digital media has led to questions for which we have not yet found a solution, but clues in which we can find epistemological fecundity.

Besides the discussion presented above about the nature of the virtual and the need to overcome the dualist positions regarding what is digital and physical, or the virtual and the actual, we believe that a methodology and its respective instruments should not be simply applied or transposed to other contexts without profound reflection and recontextualization. The greatest challenge appears to us to be the issue of researcher-field synchronicity. Although this problem is not limited to the digital media, depending on the distance (not physical, proper, but of the agendas for interaction), between the actors and the researcher, the field diary itself may remain limited to the field technical possibilities/impossibilities. Analysing the product of a production (for instance a publication in a blog) may not be sufficient for the surroundings – the context, the motivations and the comings and goings inherent to any text production – to be observed. Besides, text production is always a *posteriori*, differently from a discourse during an act. It is ultimately difficult not to give in to the temptation of limiting research to the forms of use, to the field of possibilities. In the end it is more practical to research “interaction” – as a thing – instead of the meanings that are produced in and based on the modes of interaction in the digital environment.

Despite this, research with/in the MDV3D conducted by our group has contours differentiated by the peculiarity of this technology. Digital presence in environments such as Second Life suggest modes of socialization that are different from the technologies whose communication is limited or takes place essentially through text. Immersivity in 3D environments by means of representation via avatar, enable the subjects to have a social presence, “meeting” and synchronicity that is difficult to obtain in other digital contexts. In the MDV3D it is not simply a matter of analysing the online text production of the members of a given community by interactions via forums and lists of discussions, commentaries and postings on blogs and websites, interactive forms and various other resources. Synchronous digital presence allows producing other meanings about living and interacting in a world generated in 3D, e-inhabited by avatars, that move and interact by means of textual, oral, gestual and graphic language.

This type of interaction among the members of a community enables the researcher to seek their insertion and interaction in the groups, without having recourse only to the clues and traces left in the form of text. Overcoming the methodological dilemmas for an ethnography in/through digital media, appears to us to go in the direction in which the research tries to bring the encounter closer to the enunciation, writer and text, going again over the same paths and webs that are able to produce images of the field researched, full of meaning for the community itself or the group it describes, at the same time as they are able to evidence the

problematic complexes that inject movement into culture.

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Rethinking Educational Ethnography: Researching on-line communities and interactions. Final remarks

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As part of the organizing team of this conference, the assumed responsibility of delivering the final keynote has meant a particular way of being in this meeting. Particular because the special attention and concentration needed for not losing any detail of presentations and discussions; and because of the demand of organizing a narrative to wrap up the highly interesting and inspiring works and ideas put forward and discussed.

If we agree that the main aim of Ethnography is to explore cultural phenomena, I have not doubt that the impressive proliferation of digital information and communication technologies are producing a remarkable amount of cultural phenomena that we greatly need to be able to understand. Until thirty years, ago human beings, beyond their dreams and inner worlds, were only immersed in a *material* world. Today people can get involved in remote experiences, take part in communities only existing in cyberspace, have access to amazing amounts of information in any possible mode or and alphabet, and *live* multiple *lives* through different profiles and avatars created in the Internet (Turkle, 1995).

Years ago ethnographers saw the need of going beyond the tangible aspects of culture, taking into account values and what Clifford Geertz (1973) termed as the "ethos" of the culture. Now it seems to me, and many others (otherwise we would not be in this conference), that it is time to take into account the complex phenomena created by the multifaceted aspects of digital o virtual culture. Personally, as university teacher and educational researcher, I feel the need to understand the cultural changes related to the values, ways of accessing and assessing information and knowledge, ways of relating to others, etc., favoured by the use of digital tools. But even more, I wish to explore and realise how these cultural changes are influencing the way students learn and position themselves in relation to institutional learning. We are recognize the importance of these aspects in our research project *Living and learning with new literacies in and outside school: contributions for reducing school drop-out, exclusion and abandonment among youth* (MINECO. EDU2011-24122). The fulfilment of five ethnographic studies collaboratively done by five groups of students in as many secondary schools, has allowed us to glimpse the considerable gap between the school culture, which is distanced from the digital world, and the students' milieus out of school, which is quite at ease with it.

Proliferation of terms

The Internet seems to promote an explosion of everything. It *contains* and makes available to everybody, with the right technical equipment and the right mtuliliteracy skills, more information that any human being can possible revise and make sense of in their whole life. On the top of that, the Internet is also providing users the possibility of sharing their produced information and participating in or creating virtual communities. This apparently unlimited capacity seems to cater for excess. An excess of everything, in our case, if not excess, yes a multiplicity of names and terms to refer to the study of the numerous cultural phenomena related to Internet.

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So, studies related to the cultural phenomena brought about by the Internet can be found under the heading of:

- *Virtual ethnography* understood as the process of conducting and constructing an ethnography using the virtual, online environment as the site of the research.
- *Online ethnography* that refers to a number of related online research methods to the study of the communities and cultures created through computer-mediated social interaction.
- *Netnography* more useful in the field of consumer research to refer to ethnographic research conducted on the Internet.
- *Webnography* to refer to attempts to look at the web as an object of study.

But also under the title of digital anthropology that aims at the study of the relationship between humans and digital-era technology; anthropology of cyberspace from the understanding that cyberspace itself can serve as a *field* site for anthropologists, allowing the observation, analysis, and interpretation of the sociocultural phenomena springing up and taking place in any interactive space.

Main conference contributions

In this conference most of these meanings were explicitly or implicitly present. We have been dealing with the scientific description of individual cultures; and the exploration of cultural phenomena. We have presented papers aimed at exploring the knowledge and system of meanings guiding the life of a cultural group and have provided a detailed, in-depth description of everyday life and practice. All this has been done by using digital tools and by studying cultural phenomena occurring in cyberspace.

Some papers discussed theoretical issues. We had the opportunity to debate about *the epistemological and methodological challenges involved in the construction of research objects and problems in the field of education and digital culture in contexts using digital technologies, such as: Virtual Learning Environments, Digital Social Networks and Virtual Digital Worlds in 3D*. And also explore *the conceptualization of theoretical and methodological frames that inform dramatic self-ethnography in educational research. The multiplication of the self into several others and the creation of avatars and virtual communities, as well as the development of dialogues based on performative writing encourage critical reflection on education*.

Doing ethnography about different aspects of the digital environments was the main aim of the majority of papers. However, taking into account that most participants came from the field of education, most studies relate to environments created or adapted by researchers themselves or by schools and teachers.

So, in higher education we explored how *stories, pictures, readings and discussions in the virtual campus converge, generating a set of evidences that the authors research ethnographically, exploring not only the meaning of question that drives the research, but the ways in which the process of inquiry was narrated*. But also, we debated about *an undergraduate course [...] to address the often overlooked emotional, psychological, and intellectual needs of students undergoing international education experiences. The course employed online learning pedagogies and applied ethnographic methods in order to encourage students to explore the host culture and improve their intercultural communication competence*. To go on with a *Math Forum where an online course module is used to create a virtual portal between the Math Forum and several schools of education*.

In relation to primary and secondary education, we had the opportunity to debate an *ethnographic study of two primary school classes in Switzerland looking at how this technology is used by pupils and teachers alike*. To finish with a *comprehensive fieldwork and case studies on the upper secondary 'IT-schools' covering three organizational levels: The school management level, The colleague/teacher level, and The teaching and learning practice level*.

In summary, most contributions and discussions were about ways of dealing and learning with digital technology understood as:

- A teaching tool for the teacher.
- A learning recourse for the student
- A research field for the ethnographer

These dimensions are both affected by changes brought about digital or virtual cultural and produce changes in digital or virtual cultural.

Emerging issues

The intensive discussions maintained throughout the conference clearly revealed the conflicted cultures and systems operating inside and outside teaching and learning institutions. As we could foresee in the conference and can observe in the following pictures, schools and universities seem to have a hard time to move from an analogical to a digital culture; while students seem to feel rather comfortable with the new environments.



This observation confronts both educators and ethnographers with the enormous and exciting challenges related to the creation and study of digital communities. Now-a-days it seems difficult if not impossible to understand educational and cultural issues without taken into account these new worlds, the new settings. They do not appear as just a theme of study; they rather look like a new human environments.

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