

Themes of interest in (for) a digital (ethnography) environment

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Abstract. This paper is part of the development of a doctoral thesis in the program Education and Society of the Universidad de Barcelona in Spain. The reflection is titled: "Rural schools projects: PC and Tablet generation's concerns and achievements". The intention was to understand how primary schools are starting to involve today's available technologies in teaching, and students in studying, and how important is to understand from an educational perspective what they are doing in a digital environment. An educational point of view to understand how these technologies are affecting the class dynamic and learning process is fundamental to understand the importance of the research in a digital ethnographic environment.

Keywords. Pedagogy, digital ethnography, educational community, Virtual environment

1. Introduction

With time technology has found its way into the deepest factions of our life, this includes our educational environments. Being such an important part of today's working and social environments it is just fair, and to some extent necessary, to blend it in with our growth as a student and researcher.

2. The intention of this paper

The intention was to understand how primary schools are starting to involve today's available technologies in teaching, and students in studying. But most importantly how these technologies are affecting the class dynamic and learning process.

The original doctoral research project is concerned with "*Rural schools in a digital environment. Case study Colombia*". Part of the methodology involved visiting rural schools in some European countries to build an informed approach with: Students, teachers, heads of educational institutions, parents and researchers. The ten schools visited were scattered around Spain (Ariño and Prats, three schools), England (Cheddington, one school), Italy (Campania, two schools), Denmark (Copenhaguen, one school), Finland (Támpere, two schools) and France (Ardèche, one school), and each had its own approach to technology in the learning environment.

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Can ethnography make it possible to understand the complexity of virtuality and education?

Certainly a hard question to answer, but it is from this experience that an attempt will be done to identify the key points digital ethnographers should take into account when adventuring today's educational world.

Each school presented a unique development, thinking, and application of digital tools in the learning process. From the visits six themes of interest that can help to comprehend the complexity of the issue were identified.

3. Theme 1: Understanding a new learning environment.

Technology isn't only a learning tool; it defines a whole new setting. In order to understand this situation, one must first take a look into the different components that structure this environment.

Identities are redefined, for both students and staff. The way technology is implemented involves a combination of a virtual and a physical class, and thus students and teacher may assume virtual and physical identities.

The meaning of time and space of learning is changed. As technology is implemented it opens doors to new virtual spaces in the classroom, it establishes new paths of communication between teacher and student.

Ethic issues. What kinds of sacrifices are done when implementing some technologies to the learning atmosphere? Technology doesn't actually improve learning, but it changes the conditions for learning and it changes what we need to learn. Clearly, we live in an ever-more technologically dependent world, so to be successful learners, people need to learn how to use technology and be adaptable to new innovations.

In and out (school and home). While the conventional way to take school home is through homework, technology implementations allows for a much richer interaction between the kids at home and the school.

Virtual, informal; Programming; Augmented reality. Today's children manipulate technology in an unthinkable way. A kid finding the volume of an abstract shape using an iPad is an example. The access to an augmented reality grants them different ways to understand and gather knowledge.

Cognitive system. Most of these technological tools involve sharing high amounts of media, videos, images, songs, soundtracks, and even a couple of games. All this components are actively used to mold the students learning process.

4. Theme 2: How to learn in and from a new environment

Co-creation, individual and collective intelligence. Interaction in the classroom has been redefined; kids are not only encouraged to learn through these new means, but are also guided through a collective creative process.

Multimedia use, multitasking. As said before there is a lot of media streaming in classroom, and kids are able to take in a lot when stimulated with different sensorial information. But also, devices like tablets, computers and iPads, enable them to perform several tasks at once, as though it were a natural reflect.

Evaluating a student isn't an easy task, even with modern tools available. It is still a key point in education. The schools had methods which, using technological tools, approached evaluation in a formative manner, allowing students to learn in the process.

5. Theme 3: Knowledge production

Use of web tools to produce and create knowledge and “inspire creativity”. Various web tools have been developed concerning education, from web browsers such as Google, to interactive presentation editors, like Prezi. These tools enable the students and teachers to explore tons of topics in seconds, and generate countless creations with ease.

The meaning of a qualified visit to the library changes, as students gain access to a seemingly endless pit of information just by sitting in front of their laptop. It is a concern of the schools' educational system to teach them how to effectively use these tools, evaluate the sources and narrow the search into a reliable set of results.

6. Theme 4: How to enrich the teaching and learning process

Educators have several objectives when integrating technologies into the curriculum. On one side different kids respond better to different learning processes, some kids learn through visuals, others through audio, others by playing games, and others just by varying the means in which information is delivered. Technology enables schools to diversify the approach to kids with ease. But it is not all about finding the optimum way to teach kids. Making a class enjoyable and interactive leads to fruitful results. Teachers often use technological tools to make the class much more pleasant, thus engaging the kids' attention.

7. Theme 5: The rolls

With the implementation of new technologies teachers are forced to rethink the educational methods, *shifting from the teacher as the permanent center to a space out in the classroom*. The teacher's roll is that of a leader, as well as that of a team member. Class dynamic shifts depending on the activities being performed; sometimes teachers must take absolute control of the activity, guiding the students through it. Other times student and teacher work as a team while approaching a problem. This allows the instructor to accompany the student through the process and serve as a supporting agent. But it is also important for the students to explore the virtual spaces more independently, in which case the teacher serves more as a consultant.

With the implementation of the new tools students perform different roles. They create new strategies for learning; the programs implemented allow them, in many occasions, to try, make mistakes and find the correct answers.

Each kid has its own way of understanding tasks and approaching problems. The variety of tools offered allow them to choose the program they are more confident with, the tool which allows them to make the best use of their abilities. This autonomy grants the students the opportunity to improve their strengths and explore their interests.

Throughout the class, students participate in group activities, allowing them, not only to receive knowledge, but to share the knowledge they have gathered. The intuitive design of most implemented programs involves the use of senses to enhance the learning process, and allows self-development to be more accessible.

8. Theme 6: Appropriate tools

It is incredible how fast technology concerning the learning environment has been developed. Very often educators find effective ways to apply other tools (such as games) to the teaching process, thus obtaining an amazingly large amount of options to plan a class with.

It is of no surprise that each school used its own set of programs and engines with some common denominators. Power Point, Netbook, Kokems, Opit, Otava, Disney Dream Play and virtual games are just some examples.

Characteristics of digital technologies identified by the interviewees (also include observation)

Feature	Desk Top	School web page	Lap Top	Tablet	Smart Board	Mobile Phone	Applications (by area of study)
Notes / Type	X		X				
Communicate	X	X	X	X	X	X	
Coordinate	X	X	X	X		X	X
Organize	X	X					
Network(ing)	X	X	X	X	X	X	X
Interact	X	X	X	X	X	X	X
Assemble (y)				X	X		
Multitask / Multipurpose			X	X			
Portability / Movility				X		X	
Co-create	X		X	X	X	X	X
'Humanize'				X	X		

"You get inspired just by looking at the programs": teacher.

Learning is an ever going growth process, and thus it is very important for the school to help the students develop abilities which are going to be used in high school.

"They are capable of taking their own choices and defend themselves": teacher in Spain.

But in an increasingly large list of programs, it is important to note that not all the tools will give the best results. In fact the teacher's coordinator has the important role of choosing the appropriate tools. This was best appreciated in Spain, Denmark and England.

9. Conclusion

Retaking on the initial question:

“Can ethnography make it possible to understand the complexity of vitality?”

The observations of this research project lead to five concrete points. If it is intended to do ethnography in a technological-educational environment, it is necessary to:

- Understand the affordances of digital technologies and tools, know what they can achieve and in which ways they are limited.
- Study how tools are being used, each school had its own method to apply them, each proving to be very effective.
- Explore how they help to give meaning and help to focus.
- Discover what aspects emerge, and which the limitations are.
- Open the space of research to the direct participation of the tools users (and you are part of the net).

Applied ethnography in the digital world must inquire the pedagogic knowledge and which are the teaching and learning needs in an ever changing digital environment.