HOW CAN TABLETS BE USED FOR MEANING-MAKING AND LEARNING

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ABSTRACT

The background for my research project is to look closer at how social sciences such as history, geography and civic life can be taught outside the classroom by using tablets as a tool. This paper looks closer into how tablets can be used as a learning recourse in an interdisciplinary project outside the classroom. I will follow a group of pupils that are used to using iPad in all subjects to see how they, in small groups, use their tablets outside the classroom. I will see how they use their tablets for orientation, collecting information and documentation. The methods used is observation, interview, and video documentation. The project spans from work inside the classroom to prepare for the task outside, and after the project has come to an end I will document how they work with it inside the classroom. The aim of the analyses will be to describe how the pupils use the tablets, from a socio cultural perspective, as a tool for learning.

1. INTRODUCTION

According to "The Norwegian Directorate for Education and Training" one of the five skills that are defined as basic to learning in school is digital skills." Digital skills involve being able to use digital tools, media and resources efficiently and responsibly, to solve practical tasks, find and process information, design digital products and communicate content. Digital skills also include developing digital judgment by acquiring knowledge and good strategies for the use of the Internet." (UDIR, 2012). The pupils are expected to learn technical skills, and also digital judgment. What are the best means to achieve these goals? There are great differences in the praxis used in schools to meet the aims of digital skills. Some have PC in separate rooms, in some schools the pupils each have a PC, and in more and more schools pupils have their own tablets, or other kinds of mobile digital tools. There are different opinions on these practices, on what works and what does not work. The usage of mobile digital tools in schools is especially debated. Critics argue that it can take away the focus from learning, and online bullying can be a problem. Some research show that pupils have a harder time focusing on school work with internet access, than without it (Christiansen, 2010). How teachers should set limits on its use can also be challenging. Some schools will total ban the use of cell phones during school hours. Arguments for the use of mobile tools in education, believes that banning them would be to not take advantage of the resources these can be in teaching, and that would be going backwards into the future (Nordstrand, 2015). Some seem to think that the best way to learn about digital judgment is to deprive the pupils from having access. In many schools digital judgment is more or less taught within a few occasions, rather than as an ongoing learning project.

Mobile digital tools is something the pupils are familiar with from other contexts than school. Mobile devices often have a more personal function than other digital tools and learning methods. They are easy to carry and to show to others. When working with tablets/smartphones it is relatively easy to produce good results in terms of student work such as images, movies, audio statement, and more, which in turn could increase students' motivation. Since the pupils use these tools in many different contexts, the usage of these tools can, ideally, enable a connection between various physical learning environments (Stewart & Hedberg, 2011). I believe that this link between physical learning environments, along with increased motivation through the use of mobile digital tools can lead to increased learning outcomes among pupils.

Many school subjects can be taught outside the classroom. In my project I will focus on social sciences (in Norway this consists of history and geography and civic life) as a subjects that can be taught outside of the classroom, within the society and environment that the pupils learn about in these subjects. The reason why I want to look closer at social sciences is my background from teaching these subjects in school and in museums. I find the need to go outside the classroom in these subjects, is important for the pupils to get a better understanding of the society they are a part of. They are used to using tablets or mobile phones outside the classroom, and they have knowledge about this that they have not learned in school.

In my project I will follow 9th graders that are used to using tablets to see how they do this, and interview them about their experiences.

2. THEORETICAL BACKGROUND

As a starting point for my research design, I will focus on ethnomethodology as a perspective to study people's everyday behavior and choices of methods for interacting with others. I will use this perspective as I will look into how students solve everyday activities, and what methods they use to approach the task, artifacts, their peers and their surroundings. I want to see what methods they choose and develop, when they use tablets both individually and in collaboration with the others in the group. I consider this to be a way to get aware of the pupils tacit knowledge. The tacit knowledge in my project will be some of the knowledge the pupils have about using mobile digital tools that they have learned informally. They may possibly know more about the operation than they can explain. One can well imagine that the knowledge we have acquired by verbalizing is easier to articulate than knowledge of a trial and error that the use of mobile devices will be. One does not know what one is doing before having done it. According to Polanyi tacit knowledge has a dimension related to culture, and a dimension related to the subject - knowledge is socially and culturally oriented (Polanyi, 1983). This consists with Vygotsky and sociocultural theories of learning, reviewing learning as socially and culturally oriented (Vygotskij, 1978). I have a sociocultural perspective on learning, and to illuminate my perspective on learning I will look closer into Polanyi view on tacit knowledge.

I will use the sociological perspective ethnomethodology to look at the pupils interaction with one another as they go about the using their mobile digital tools. I think this is a suitable way to look at the phenomenon of using this tools as this is something they are used to in their everyday lives. I want to look at what they do, and try to explain why. Try to make these common place scenes visible (Garfinkel, 1964).

Through my research, I will seek an understanding of the relationship between digital tools and learning. I will examine how pupil's skills and knowledge about the use of digital tools can be used as a resource in schools, in this case outside the classroom. The research aims to emphasize the importance and usefulness of pupil's contribution to their own learning. It also aims to increase awareness of how children's digital skills can be used in teaching, as well as bridging the digital home and on leisure time and school. I will also look at how teachers can find their place in this. On the bases of my research I will look at m-learning by focusing on the following elements: - informal learning – Ethnomethodology – digital skills – sociocultural learning perspective – outdoor education. Using this definition of outdoor education: "Outdoor education is a way to work with the school's content on the part of school life moved out in the community. Outdoor education thus implies regular and purposeful activity outside the classroom." For a closer look at the activities and interactions that take place between pupils, between pupils and the physical space and between pupils and artifacts. I be based on an ethno-methodological perspective on interaction (Vom Lehn, 2014).

Although there is controversy about the use of mobile tools in schools, the usage is increasing. Mobile learning (M-learning) involves the use of mobile technology, providing excellent opportunities for learning outside the classroom (Kukulska-Hulme, Sharples, Milrad, Arnedillo-Sánchez, & Vavoula, 2009). M-learning can be said to be the use of digital tools that are easy to bring, and that can be used anytime and anywhere (Crompton, 2013). This can help to make learning easy, accessible and interactive (Kukulska-Hulme, 2006) (Burden & Maher, 2014). Use of mobile devices can also connect formal learning that happens in schools with informal learning that happens in the pupils spare time (Kukulska-Hulme et al., 2009). Several theories about m-learning is postulated. Marguerite Koole has put forward a model to describe m-learning. The model explains how mobile learning takes place at the junction of the technical aspect (mobile device), the social aspect and the learner (Koole, 2009). Laurillard have based conversational theory (Pask, 1975) to create a "conversational framework" which sets m-learning. Conversation theory is based on

the idea that learning happens through conversation (Pask, 1975). Laurillard notes that conversation is important in all forms of learning, and in m-learning there are more opportunities for pupils to gain ownership of what they learn through conversation (Laurillard, 2007). Several other studies of mobile learning in recent years has placed "mobile education" under socio-cultural approach to learning (Kearney, Schuck, Burden, & Aubusson, 2012). There is no clear agreement on the theoretical approach that best suits m-learning (Crompton, 2013). Within my research I will focus on the sociocultural aspects of m-learning.
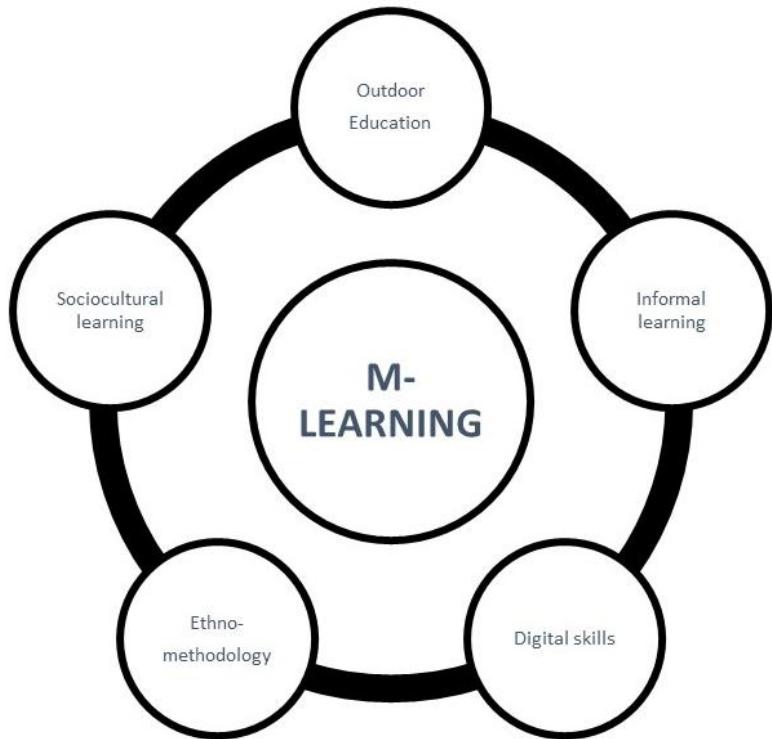

Figure 1. Research perspectives.

3. METHOD

Areas of focus for the project will be to test and analyze educational resources on the basis of empirical studies of learning processes in secondary schools. Furthermore, I will look at how these educational resources are included in the activities taking place in schools, but outside the classroom, and how they put into play through individual and collective learning processes.

The collecting of data has taken place in November of 2016. I have studied a group of 9th graders that are used to using iPad in almost all school subjects. I want to look closer at how this works within a group of pupils that are used to working with iPads. The field work started with observation in the classroom to see how they work with the iPads. After this I will followed the group when they did a project initiated by their teacher. The project involved using the iPad outside the classroom for orientation, documentation and to gather information in an intersubjective project consisting of history, geography and civic life in the pupil`s nearby community. The school project started in the classroom where the teacher divide into small groups of 2-3 and give the pupils information about the project. I will gathered data through video filming in the classroom. The next part of the data collection was to go outside where the pupils did the major part of the project. Here some of the groups wore go-pro cameras so they could film what they were doing. After the work outside was done we went back into the classroom where I will film what is happened in the classroom after the pupils went through their work and showed the rest of the class what they had been doing. I interviewed groups of students about how they worked with the project. I also interviewed the teacher about how they work with the iPads.
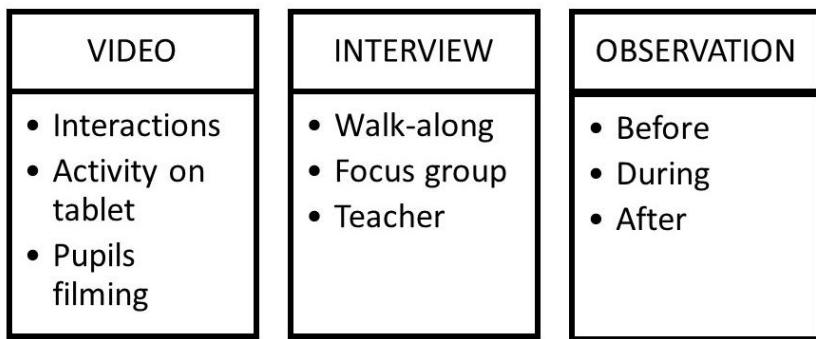
Figure 2. Goals in the different methods in the multi-methods approach.

4. CONCLUSION

The project is timely and can generate information on how to use tablets within the school and take advantage of what the pupils already know. This is applicable for schools and pupils, and important as digital skills now are of great importance- in this case, not mainly technical, but pedagogical. The project is still wide, and needs a more specific aim.

REFERENCES

Burden, K., & Maher, D. (2014). 15 Mobile technologies and authentic learning in the primary school classroom. *Teaching and Learning with ICT in the Primary School*, 171.

Christiansen, V. (2010). Førsteklassinger med mobiltelefon i skoletida. *NRK Hedemark og Oppland*. Retrieved from http://www.nrk.no/ho/mobiltelefon-i-skoletida-1.7087629

Crompton, H. (2013). Mobile learning: New approach, new theory. In Z. L. Berge & L. Y. Muilenburg (Eds.), *Handbook of Mobile Learning* (pp. 47-57): Routledge.

Garfinkel, H. (1964). Studies of the Routine Grounds of Everyday Activities. *Social Problems, 11*(3), 225-250. doi:10.2307/798722

Kearney, M., Schuck, S., Burden, K., & Aubusson, P. (2012). Viewing mobile learning from a pedagogical perspective. *2012, 20*. doi:10.3402/rlt.v20i0.14406

Koole, M. L. (2009). A model for framing mobile learning. *Mobile learning: Transforming the delivery of education and training, 1*(2), 25-47.

Kukulska-Hulme, A. (2006). Mobile language learning now and in the future. In P. Svensson (Ed.), *Från vision till praktik: Språkutbildning och Informationsteknik* (pp. 295-310). Sweden: Swedish net university.

Kukulska-Hulme, A., Sharples, M., Milrad, M., Arnedillo-Sánchez, I., & Vavoula, G. (2009). Innovation in mobile learning: A European perspective. *International Journal of Mobile and Blended Learning, 1*(1), 13-35.

Laurillard, D. (2007). Pedagogical forms of mobile learning: framing research questions.

Nordstrand, Ø. (2015). Mobilforbud i skolen=å pisse i egen bukse.

Pask, G. (1975). *Conversation, cognition and learning*: Amsterdam: Elsevier.

Polanyi, M. (1983). *The tacit dimension*. Glouchester, Mass: Peter Smith.

Stewart, K., M. , & Hedberg, J., G. (2011). The Pedagogy of Mobility. In N. Wan (Ed.), *Mobile Technologies and Handheld Devices for Ubiquitous Learning: Research and Pedagogy* (pp. 259-278). Hershey, PA, USA: IGI Global.

UDIR. (2012). *Framework for basic skills*. http://www.udir.no/contentassets/fd2d6bfbf2364e1c98b73e030119bd38/framework_for_basic_skills.pdf: Norwegian Directorate for Education and Training Retrieved from http://www.udir.no/contentassets/fd2d6bfbf2364e1c98b73e030119bd38/framework_for_basic_skills.pdf.

Vom Lehn, D. (2014). *Harold Garfinkel : the creation and development of ethnomethodology*

Vygotskij, L. S. (1978). *Mind in society : the development of higher psychological processes*. Cambridge, Mass: Harvard University Press.