Better exam results

How students and school leadership learn when introducing new technology such as OneNote in school

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Summary

This thesis describes the project Better exam results where the software OneNote was introduced into School X with the view to better students' exam results. Through observations, a survey and interviews we investigate how students use and collaborate with the help of OneNote.

The thesis questions are twofold. They have their basis in the project "better exam results" which we were a part of. We were interested in seeing how students interact and learn with technology and we wanted to see what reflections the leadership group had upon the process of introducing a new digital tool. Our thesis questions thus became:

1) How do students see their learning situation with the use of OneNote at School X?
2) How does the leadership group at School X reflect upon the process of introducing OneNote?

We have used a socio-cultural approach when it comes to analysing student data, with Vygotsky's term Zone of Proximal Development as a starting point. We have further used the terms mediated action and cultural tools when it comes to carrying out the analysis of the student data.

When analysing the leadership group reflections we have used the theory of distributed leadership as presented by Spillane. We also use Hargreaves to understand the dynamics within the leadership group.

OneNote is software which is used to take notes. It belongs to the MicroSoft family but has not had massive use. We saw the software as a good tool for our students. OneNote is searchable, easy to understand and use and has the possibility to be used by students in collaboration. Hence, it seemed a good idea to give our students the opportunity to use it.

When it comes to method we have decided on a cross sectional study design where we have carried out four classroom observations, a survey among our 1st year students, two group interviews with students, all with the view of finding out how students reflect upon their own learning situation with the help of the tool OneNote. To understand the reflections the leadership group expresses we have studied a transcript of a leadership conversation

evaluating the introduction of the project. Both analyses is carried out to see where the participants stand at one point in time.

Our main findings are that the students find the tool useful and that well over 80% use the tool daily or several times a week, but that many students are mainly unaware of the level of their own cooperation. The leadership perspective shows that projects like this needs to be firmly based within the leadership group.

Preface

This master thesis is a result of a study in school leadership at the University of Oslo. It has been 5 exciting years for us and it has been a long journey. It started as an initiative from our county in 2005. All 33 schools in the county were offered 3-4 places at the university's leadership program. It was an incentive to educate more leaders from the schools and was meant as a recruitment initiative. This came at the same time as the Norwegian educational department started a leadership principal program. The need for a formal education for school leaders was recognized and many universities and colleges now offer this program.

We were very fortunate to be part of this program. And although we initially came from different workplaces we have now ended up as colleagues at the same school. We were also fortunate to be among the first students who participated in the international IP program. That was two very motivating weeks we had in Canterbury, England. In fact we are sure that those weeks gave us the initiative and engagement to follow this project through.

As school leaders it is not easy to take the time in a busy schedule to work with an extensive study such as this. But with our genuine interest in the field and the university's ability to present new interesting topics it is easy to stay focused. Many topics have been on the agenda these 5 years such as the Knowledge promotion reform, Norway's results in international league tables and the county initiative to have computers for all the students.

It is our belief that it is the responsibility of the school leader to be informed and up to date at all times. This is a strenuous task at times and requires a network of school leaders to help and guide us. During these 5 years we have met many talented school leaders and we have built a network we will use and rely on in the future.

The project we have written about has been engaging us and has been very interesting to follow. Doing research at our own workplace has been challenging but mostly very rewarding and we are very excited about our findings.

We would like to thank our supervisor Trond Eiliv Hauge for excellent help and support, and that he never gave up on us.

1. Introduction

School leaders encounter several challenges when introducing social media and 21st century skills in schools. The traditional workforce represented by the teachers with university degrees, are joined by the students with their often conservative approach to their own learning process. It has been argued that schools are not utilising the possibilities inherent in the new technologies, and that students as a result are unprepared for the demands placed on them in the workplace (Collins & Halverson, 2009). Teachers and students face new challenges when they attempt to bring ICT into the classrooms (Hauge, Lund, & Vestad, 2007) and old practices need to be rethought.

At the same time school leaders experience an increased focus on results (Stobart, 2008), politicians take a more interested approach in governing school policies and to a much larger extent than before hold school leaders accountable for the results achieved by students (Hauge, Lund, & Vestad, 2007).

1.1 Recent educational reform in Norway

Norway went through a major national education reform in 2006 with the aim to raise the quality of its education system. The reform is known as the Knowledge Promotion reform and is known under the abbreviation K06. A major aim was to strengthen basic competencies for Norwegian pupils with ICT as one of the five basic competencies now integrated in the curriculum.

This reform also aimed for a higher competence level for teachers, head teachers and school principals and several programs were initiated from the government to improve this competence in schools. Now 4 years after the reform it is interesting to see the results of this and also to see how well the schools are equipped when it comes to introducing new technology in their organizations.

1.2 ICT in schools

As a result of the recent reform K06 and the introduction of ICT skills as a basic skill, the Norwegian government spent much money on providing computers and networks in schools in addition to different on the job training schemes for teachers in ICT and learning management systems (Erstad, 2006). One of the main objections to the use of ICT in

Norwegian schools has been the long time spent on starting the computers, organizing the power supply, technical support and maintenance. Taking into consideration the distraction the use of personal computers can provide, it is little wonder that many teachers are reluctant to integrate the use of laptops in their classrooms.

At the same time it is obvious that there is great potential in ICT supported learning and that the world has changed to such a degree that a school that is not trying to exploit the possibilities inherent in the technology is not doing its best for its students.

When we were asked to participate in a research project with Microsoft on the use of one of their products in schools, this seemed as a good opportunity for us as school leaders to investigate the use of ICT in classrooms as well as see how we could lead the introduction of a new software in the classroom.

The project we were asked to participate in was "Better exam results" using the Microsoft Office OneNote together with two other schools in the Oslo region.

> "Microsoft Office OneNote 2007 is a digital notebook that provides a flexible way to gather notes and information, it has powerful search capabilities so users can find what they are looking for quickly, and easy-to-use shared notebooks that help teams work together more effectively" (Microsoft Corporation, 2010)

It is a program included in the Microsoft Office family, but has up to recently not been much in use. One of the many aspects of this program is that it is intuitively easy to use, and at the same time it also has a lot of advanced functions. It is interesting from a socio cultural perspective to observe how the students use OneNote in class. It was our belief that if the students saw OneNote's possibilities to collaborate and share notes then they would take learning with technology to a higher lever. We believe that it is when using ICT to collaborate that we will find the true potential of ICT in the classroom.

1.3 Reflections on chosen approach

As school leaders we saw this as an interesting project. As university students with a master's degree to write we were sceptical towards writing about a project at our school. At the same time we were exited about what we saw as the possibilities in the project and the learning

possibilities inherent in it for us as school leaders. Knowing that it would be difficult to analyse the project in depth without the extra push of writing about it, we brought the idea to our supervisor.

We are aware of the ethical questions of carrying out research in our own work place, but as we see action research as constructive research that is both action oriented and theoretically oriented we wanted to employ this method. Since the researcher contributes to improvements in the area they are researching through active participation from the researchers, this gave us a possibility to join together our double roles as leaders and students. Action research compromises a learning process for both the researchers and the environment in which it is conducted (Hjardemaal, 2002).

At the same time we are aware of the dangers in our double roles as leaders and scientists. We have tried to avoid mixing our double roles as school leaders and scientists by being very clear as to when we inhabit which role. In addition we have chosen that one of us has a leading role within the project, while the other has the role as the detached observer with no ownership to the project. This is done to ensure that we do not become “blind” in relation to our results and findings (Fangen, 2004).

We have also tried to study more than one level of the organisation we are working in, so that more than one level is analysed. Thus we try to ensure that we do not develop a too strong feeling of identity with either one of the levels studied. This is to safeguard against a twisting of our finding in a particular direction (Fangen, 2004).

Haven taken this all into consideration, and after weighing the possibilities of carrying out the research in anther school, we decided that we felt comfortable with pursuing our research work in our own organisation.

2. Thesis question and background

2 .1 Assumptions and problem description

Our thesis questions in this master are twofold:

1) How do students see their learning situation with the use of OneNote at School X?
2) How does the leadership group at School X reflect upon the process of introducing OneNote?

Our purpose in writing this master thesis is to highlight how students react to the introduction of new technological tools and by analysing the reflections of the leadership group, see if we can learn from it. Our main aim is to study how students see their own learning situation and how the leadership group reflects on the process. We are not aiming to evaluate the project.

We work in a new school, where ICT has been one of the areas that the school is committed to work with. This has led to the school embracing the use of technology in the classrooms, and given room to a strong culture for sharing and discussing the uses of ICT. This is done through teacher co-operation in teams, by arranging conferences for all surrounding schools to attend and also a broad participation in different ICT related projects. As a result of all this, we have been invited to participate in a Microsoft project called "Better exam results using OneNote". When starting this project, we saw that we know little about how new software is used by students and how they think about their own ability to both use new software and hardware.

In this thesis we are interested in looking at how new technologies are included in student behaviour and reflections. We see that classrooms are becoming steadily more technology-centred, and as school leaders we are required to make decisions as to what we want teachers to introduce into classrooms and their teaching, and how we want it done. In order to do this we need to know what actually happens when students use technology, how they share and learn about technology and how they reflect on their own practice.

It is our belief that many different situations occur in a classroom when new technology, software or applications are introduced. On one side you have the goals for the lesson set by

the teacher with his or her specific expectations. On the other hand you have an agenda set by the students, and this can be both related to school work and or to their social lives. We assume that there are different levels of co-operative learning, cooperation, and one-to-one situations etc. which take place within the classroom setting. How much of this is related to learning school subjects is very difficult to say. However, it is interesting and important to be aware of the learning potential of these situations, especially when new technology, software or applications are introduced.

2.2 Outline of the general Norwegian situation

The use of ICT in the classroom can easily be classified as one of the most challenging issues in schools today (Collins & Halverson, 2009). It has been an on going process for many years and is still debated both in the news and within the educational system at all levels. This might seem as a fairly new issue but it is mentioned as an important challenge in reports dated back to 1988 (Minestry of education and research, 1988).

In 1996 a report about IT in Norwegian education was issued. In this report the main goal was to meet the challenges from the information society and to integrate IT in education. (Ministry of education and research, 1996). The plan was permeated by the idea that IT must be a positive contribution to raise the quality in Norwegian schools and education. In a clear strategy for this to happen, the technology user competency had to be improved, the activity in the classroom needed an efficiency improvement and the school organization needed to be rationalized (Østerud, 2004, p. 95).

In a report from 2000, we later saw a change crystallized in a shift from technology as an instrument for teachers to improve the teaching, to a communicative tool for students as well as for teachers in the learning activities. This is to be noted in the change from IT to ICT, recognizing the importance of communication (Østerud, 2004). Until then ICT was mostly looked on as a subject to be taught in computer rooms and not at all integrated within the other subjects taught at school.

In a committee led by Astrid Søgnen from 2001 to 2003 the following requirements were outlined; basic skills are to be part of the general competence and are to be integrated in all subjects. This was to be the basis of the Knowledge Promotion reform that came in 2006 (Ministry of education and research, 2003).

The Knowledge Promotion reform, a comprehensive curriculum reform, was introduced in the autumn of 2006. The reform covered primary, lower secondary and upper secondary education and training. The reform placed an increased focus on basic skills and knowledge promotion through outcome-based learning. The national curriculum for the Knowledge Promotion reform in Primary and Secondary Education and Training is made up of five different units:

- The Core Curriculum
- The Quality Framework
- Subject Curricula
- Distribution of teaching hours per subject
- Individual Assessment

In the Subject Curricula the five basic skills are integrated and adapted to each subject. These skills are: the ability to express oneself orally, the ability to read, numeracy skills, the ability to express oneself in writing, and the ability to use digital tools (Ministry of education and research, 2007).

The Knowledge Promotion reform introduced a permutation between competency aims in the subjects and a high local methodical freedom. This was a challenge for most teachers and school leaders when the reform was introduced. And in many ways it still is. The choice of methodical freedom that ideally should enable the teachers to meet new criteria for teaching has indeed for many proved to be an obstacle. In the curriculum there was no longer reference to specific historical events, reading lists or other specific events the students had to read or memorize. The teachers are more in control of the content and many schools have left the work of interpreting what to cover in the hands of the individual teacher. Different practices emerged in the different counties in Norway, and some offered extensive workshops for their schools to work together towards a common understanding of the curriculum goals. In this reform digital literacy has become the fifth basic competence in all subjects at all levels (1-13) and stresses teachers to use ICT in all subjects tied to the competence aims. This increased status of ICT is historical and gives new possibilities, challenges and dilemmas for teachers.

Therefore, we can assume that since the former curriculum was implemented in 1997, we can say that the digital revolution has made huge impact in the Norwegian society and schools, which demands a new debate around which kind of theoretical underpinnings pedagogy and didactic has to be considered in the digitized school (Krumsvik, 2008).

Another dilemma that needs to be considered concerning the use of ICT in schools is the growing use of social media. This is noticeable in most schools today. The question is how the school facilitates the use of these in a learning contextual environment. Many would argue that the students' use of forums and online communities such as MSN, MySpace, Facebook and Skype, mostly are used for activities in the private sphere and that they have no role in a learning situation. The difficulty is to get the students to use these social medias in ways that support their learning. The learning platforms used in schools were by many counties looked upon as a means for collaboration both between teachers and students, but also amongst students and teachers (School X, 2007). We will explore this aspect of collaboration in our discussion and analyses.

The Norwegian school system has been eager to embrace technology in the classroom. The subject has been mentioned in a number of white papers since 1983 (Kirke, utdannings og forskningsdepartementet, 1984). Norwegian classrooms have lately been filled with personal computers and expensive equipment. 87% of Norwegian 17 year olds claim that they have computer access when they need it in school (Arnseth, Hatlevik, Kløvstad, Kristiansen, & Ottestad, 2007). However, there seems to have been few overriding strategies on how these tools should be used, and little knowledge of how students make use of this new technological opportunity. Norwegian politicians have for many years had a clear idea that ICT is important. In introducing the new school reform in 2006, the Ministry of education and research stated that computer literacy was equally as important as other basic skills and made it a responsibility of all teachers to include computer literacy in all subjects at school by including it in the curriculum (Utdanningsdirektoratet, 2006). Aside from that there has been a lack of directives on how ICT is to be used in the classroom. We have found numerous studies on how ICT is used in the classroom, but little includes the students' perspectives.

There seems to have been a general consensus that since young people have grown up with computers there is no need to educate and guide them in their use, though this is changing. As we have been aware of in a modern knowledge organizations, practices for facilitating,

collaborating, creating, and sharing knowledge are seen as some of the most important challenges for professional and institutional development (Hargreaves, 2003) How do we then ensure that this is happening in our schools and whose responsibility is it?

2.3 Description of situation as is

ICT in schools presents some challenges. One of these is that traditional 45 minute teaching slots are badly suited to the use of ICT due to the time spent logging on and off, which eats up a huge amount of teaching time. This is reported one as one of the reasons why some teachers are sceptical to the use of ICT in classrooms (Arnseth, Hatlevik, Kløvstad, Kristiansen, & Ottestad, 2007).

The use of ICT in classrooms in Norway is to a large extent dependent on how digitally literate the teacher is. ITU monitor 2009 points to the fact that many teachers see the unstructured, private trial and error method as a good way to learn ICT. However this is unstructured way is problematic, because schools are then dependent on the initiative of the individual and are not able to plan strategically regarding this. Teachers are expected to help children and youths navigate a digital landscape, but may not be digitally competent themselves. "There need to be new binding plans and targeted resources for a strategic competence lift among both teachers and student teachers" (Arnseth, Hatlevik, Kløvstad, Kristiansen, & Ottestad, 2007, p. 29).

Another important part for being able to teach using ICT is a well organized ICT support/help-desk for both students and teachers. Much time is used helping students with their PC's. This is usually time taken from the teaching and learning process at school. Schools with a 1:1 program will experience an amount of frustration both from the teachers and also from the students' point of view. This is another way the school leadership can ensure that the teachers stick to the program and that the students get to use the computers in class. It will always be a question of finance and budgets since the ICT helpdesk department will always be dependent on the expertise of the employees and also to a certain extent the number of employees.

School X is a high school situated outside Oslo. It lies in one of the most affluent areas of the country and most of the students come from privileged social backgrounds. The school is

newly established and inhabits an old university college building. The school is seen as trendy by many students and students need to have a high grade average to be accepted.

The school has taken an active approach to the use of ICT and was one of the first schools in the county to introduce laptops for all students. All teachers use ICT in their teaching on a daily basis. It is a prerequisite for employment that the teachers are computer literate.

However, in order to support teachers in keeping up to date, the school hosts a one day county wide conference on ICT and pedagogical use of ICT each November. All teachers are expected to participate in this. The school owner offers a number of other courses and employees are urged to participate. One teacher at the school also has as part of her position one day a week to develop innovative teaching using ICT.

At School X the problems with teaching units too short to benefit from ICT is solved by block scheduling, so that students mostly only have one subject (class) on any given day. This gives both the students and the teachers more room for getting organized in setting up the computers and logging on to the network. This has actually turned out to be quite vital to the introduction of ICT in our school.

By organizing the school day with block scheduling the school leaders have equipped the teacher with a better way to cope with one of the limits of the technology. In fact we would like to point out that this seems to be a very important criterion in order to succeed. This way of organizing the classes gives room for more trial and error on behalf of technology than a normal 45 minutes time frame slot would. This ties in with the issues raised by Erstad in criteria for successful introduction of ICT in schools (Erstad, 2006). This organization can be describe as an artefact as procedure used by leaders to influence the practice of others. If artefacts are effectively designed and shepherded by leaders in schools they can give rise to new routines of practice that can reshape the professional culture of a school (Spillane, 2007, p. 37).

By investing in a highly technical and innovative ICT leader our school had done a lot in the process of making the ICT work smoothly. By looking at the procedures we have where we continuously try to improve how we help the students, we have been able to install a much better system for helping the students. With an organized helpdesk with a numbered system to

ensure that everyone gets in line, it is easier for students to see how long it will take to get help. We have also had great success with a self-service system that reboots the pc and restores it to its original status without using the precious time of the ICT staff. When routines are easily done by the students themselves the ICT staff can focus on other more important tasks. This is vital for an organization that wants to be innovative and push forward new ideas.

There are, however, challenges that school leaders cannot handle on their own. For us the central ICT unit situated in the county at times becomes an obstacle. Since the central ICT unit has the final say when it comes to implementing hardware in schools, all projects have to be approved by them in order to become reality. In the particular project we write about have they interfered when the school planned to and started working with a SharePoint server. When it comes to the use of OneNote the possibilities are so many more if the students are allowed to work together on a SharePoint server. Social interaction is the central element in learning and competency building, and it is through communication with others in our own zone of development we are involved in society's collective experiences (Säljö, 2006, p. 211). This is something we will discuss further in chapter 3. It is interesting for us to study how the students use OneNote since it so clearly both can be used as a traditional note taking program or with a more collaborative, collective approach. As a result of this it is the activity surrounding the students' work in school that is interesting to study, more than the technology itself (Lund, 1990).

2.4 The implementation of the OneNote project

The OneNote project initially started as a project between 3 schools in the region representing 3 different counties and Microsoft. The project was called "better exam results" and was born from the wish to better prepare students for exams.

School X has been a school eager to seek new way to use technology and the use of OneNote seemed like an exiting approach to further the students' use of ICT in the classroom. It was apparent to us that the way both teachers and students were using ICT first of all differed from class to class, but also that it was possible to improve. School- level factors matter when it comes to improving student learning and maintaining these improvements over time (Spillane, 2007, p. 3).

The project aimed to better educate the students in many aspects of using PC's and ICT in general. After discussion among the partners on what was needed, the schools agreed that the students needed to be taught how to use the programs, to be aware of ergonomics when working in front of a computer, and to improve their study technique. The partners put into action a program to cover these areas.

An expert came to each school to teach the student how to use the program, all students were taught ergonomics by a physiotherapist, and all students went to a regional college for a workshop on study technique held by a university college. These 3 measures were spread through the school year and most of the students attended. See Table 1: Organizational routines around the OneNote project.

Table 1: Organizational routines around the OneNote project

Artefact	Purpose	Description	Designers	Date
Course in OneNote for students	To create interest for the program and knowledge how to use it	One 40 minutes show and tell by a professional user who visited our school	The OneNote project group	September 2009
Course in ergonomics	To show students how to work with computers and avoid problems later in life	One 30 minute demonstration by a physical therapist	The OneNote project group	September 2009
Course in study technique	To show the students how they can learn and study more efficiently and how they can work on retention and structuring with OneNote	One day workshop by study leader at a nearby college	The OneNote project group with the school leader group	November 2009
Course in OneNote for teachers	To create interest for the program and knowledge how to use it	One 40 minutes show and tell by a professional user who visited our school		September 2009
Share point server	To create interest for the program and knowledge on how to use it, that hopefully			Work beginning spring

	would result in more use by the students			of 2009 – not yet installed
Kick off for teachers	To spark new interest in the project and to show the teachers many areas were OneNote can be used	2 hour event at Microsoft's office at Lysaker.	The OneNote project group	Septemb er 2010

The table shows how the students were introduced to the project and the software in question. The different courses for students were introduced to teach students both about the software, but also to give them tools to better their study technique and to heighten their own awareness of ergonomics.

All teachers involved in the project were given an introductory course in the spring of 2009. All teacher courses listed here are renewal courses, or aimed at interested teachers within the whole school.

3. Theoretical framework

3 .1 Technology and learning

In the last 15-20 years there has been an exciting development within the learning theory from cognitive to socio-cultural theories. In short it can be looked upon as a paradigm shift (Erstad, 2006, p. 67). The social cognitive perspective puts emphasis on the social aspects around human thinking learning is understood as action and activity woven in a complex cultural, social and material context (Erstad, 2006, p. 73). The knowledge and skills that constitutes societies' experience, does not come from the individual – it has been developed in society between people. In this perspective learning comes before development (Säljö, 2006).

As a means of background for what is happening in schools in Norway today, ITU monitor 2007 is a measure to map how ICT is used. Researchers have on behalf of the Norwegian educational branch conducted a survey with students at the age levels 7th grade, 9th grade and first year of high school. The result is a report that focuses on the methodical, subject orientated and organizational improvement and development work that follows in the footsteps of implementing a fifth skill, namely the ability to use digital tools (Arnseth, Hatlevik, Kløvstad, Kristiansen, & Ottestad, 2007).

The findings in 2007 show that there has been an improvement since the last report in 2003, but there are still a lot of differences between the students on the same grade level, and that the risk of a uneven digital competency will occur among students in Norway is high. They also found that digital competent schools were identified by constraint, infrastructure, leadership, culture and pedagogical practice influence by open mindedness and systematic work.

These findings coincide with the views we mention in part 2.4, where we talk about the importance of the infrastructure. Arnseth et.al. (2007) differentiate between three different digital competencies amongst the students all of which are important.

- To acquire information
- To integrate information with what you already know or information from other sources

- To create by transforming text into meaning by using text and illustrations.

As we see it OneNote is a tool for information collection that helps the students systematically organize, adapt and integrate the information they collect in class and when doing homework. It is also a way to transform text into meaning by using text and illustrations, as found in the group interviews and during our observations in class.

It is the learner's own activity that is central in the knowledge building. But at the same time it is important to stress that it is not the definite activity or the physical manipulation of the object itself that leads to knowledge and understanding. Instead it is guidance and support from collaborating partners with more experience that is the most valuable element in the individual's learning (Säljö, 2002).

In a socio-cultural perspective to learn is foremost a social process and by learning one gradually master and develop existing practises. When we learn we will gradually master and develop existing practise by using resources that are available in the culture. The individual might have previous knowledge, perspectives comprehension, but these need to be made relevant in the new learning situation or renewed by dialogue, instructions or by use of resources. It is the focus on the activity that is interesting to us and the social interaction and use of cultural tools such as language or tools, described as artefacts. The definition of artefacts is that it is man made; sometimes the word tool is used as a synonym. This is important to us since the artefacts play a major role in the in the interaction that takes place between people and the learning that derives from this (Hauge, Lund, & Vestad, 2007) .

We wish to use the socio-cultural theories to connect our research on technology and student reflection on learning as a point of departure for our paper and as a basis of our analyses. As outlined in Chapter 1, the importance lies is the expectations from the highest level with the different initiatives deriving from our educational reforms (Ministry of education and research, 2007). We will later on in this chapter comment on the difference between the traditional concept of learning and the new way of thinking outlined in the New Knowledge promotion. This is a challenge for many schools.

Learning should be enhanced by the use of technology. Can this be said to be true in this specific example? To help us in understanding learning in this context we have concentrated on the theory outlined here:

1. Theory linked to the way students learn in this environment, Vygotsky, Säljö, Wertsch and Wenger
2. Theory linked to the way leaders reflect on their own actions regarding the implementation of ICT as described in this thesis, Spillane and Hargreaves

Learning is part of social participation. And it takes place with the individuals as participants in social communities of practice where identity is built in relation to these practises. We can explain communities of practice as a process of social learning that occurs when people who work together over a period of time collaborate and share ideas in a community set up for this specific purpose. Communities of practice are thus groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly. According to Wenger learning can be categorized like this (Lave & Wenger, 2003, p. 131):

1. We are social beings. Far from being trivially true, this fact is a central aspect of learning.
2. Knowledge is a matter of competence with respect to valued enterprises – such as singing in tune, discovering scientific facts, fixing machines, writing poetry, being convivial, and growing up as a boy or a girl, and so forth.
3. Knowing is a matter of participating in the pursuit of such enterprises, that is, of active engagement in the world.
4. Meaning – our ability to experience the world and our engagement with it as meaningful – is ultimately what learning is to produce.

Participation in these communities leads to the constructing of identities in relation to these communities. This is illustrated in Figure 1.

Figure 1

In Figure 1 we see an illustration of how learning as a social participation involves many different levels of learning. In a social theory about learning it is important to integrate the different elements necessary to characterize social participation as a process that deals with learning and knowledge. All these different elements have to be integrated and are deeply connected (Lave & Wenger, 2003, p. 132):

- Meaning – to experience our life and the world as meaningful
- Practice - perspectives that can sustain mutual engagement in action;
- Community - our action as worth pursuing and our participation is recognizable as competence;
- Identity - a way of talking about how learning changes who we are and creates: personal histories of becoming in the context of our communities

Here attention is placed on the participation of the learner as an active part in the learning process and it has broad implications for what it takes to understand and support learning:

- For *individuals*, it means that learning is an issue of engaging in and contributing to the practices of their communities.
- For *communities*, it means that learning is an issue of refining their practice and ensuring new generations of members.
- For *organizations*, it means that learning is an issue of sustaining the interconnected communities of practice through which an organization knows what it knows and thus becomes effective and valuable as an organization.

This can help us see how learning changes from the individual and passive role of the learner, and how the learner depends on engagement and involvement in the communities they are connected to. It becomes important to promote an active student role. The student needs to be included in the community of practice in the class. In order to be able to contribute the individual student needs to feel as a member of the community.

To aim for a learning activity based on this perspective you need to find an activity that is real and realistic where both experienced and inexperienced students participate, and where they help each other construct new knowledge that is necessary for the situation. The "facilitator" can intervene, but should preferably allow the students to struggle with challenging tasks in such environments (Krumsvik, 2008).

The role of the teacher becomes important in organizing this. And for the teacher to be able to do this, some guidelines have to be made by the school leadership group. This is interesting for us in our thesis question since we are looking at how the students reflect on their learning situation and also because we are looking at the leadership group and how they reflect on the process of implementing new technology. We aim to draw a connection between how students see their learning situation with the use of OneNote and how the leader group at school reflect upon the process of introducing One Note in school by using this theory about community practises and social participation.

3.2 New contexts of learning

Andy Hargreaves emphasizes the importance of teaching for the knowledge society describing how the teachers should promote creativity, flexibility, problem solving, ingenuity, collective (shared) intelligence, professional trust, risk taking, and continuous improvement (Hargreaves, 2010, p. 332).

These skills are hard to measure or assess and also difficult to teach. The difficulty for the schools lies in promoting this kind of movement from the traditional classroom management to leading for change. This is a very difficult task for most teachers and also for the students. It is not likely that these qualities can be attained by the students on their own. There is a huge breach between the traditional concept of learning and the new way of thinking outlined in the New Knowledge promotion and outlined by the thinking of Andy Hargreaves.

In schools there is most probably a difficult mind set to change. Andy Hargreaves points to a time when teacher development was a question of how teachers liked to spend their holidays. Now, he points out, continuous professional development is an individual duty as well as an institutional right (Hargreaves, 2003). Most teachers will recall how they learned by rote facts and how they memorized dates with success. Today these are skills that are not very useful, except at exams or tests made by the teachers. The world has changed from this view of knowledge. As well as having strong skills in literacy and mathematics and core subjects, 21st century students must be comfortable with ideas and abstraction, good at both analysis and synthesis, creative and innovative, self-disciplined and well organized, able to learn very quickly, work well as a member of a team, and have the flexibility to adapt quickly to frequent changes in the labour market (Hargreaves, 2010).

The importance of the 21st century learning as discussed here, as we see it, is that it reflects the views set by the ministry of education in our latest school reform. Learning should not be seen as an isolated incident but belonging to an outside community in which it has new meaning for the learner. This is also called accountability. When introducing a new program like OneNote as in this project it is difficult to ignore these demands. Although we do not ask our students specifically about this it is reflected in the group interviews. The students reflect on how the teacher introduces new material, how it is relevant to their work and what kind of sources they use. They also reflect on how the have some specific strategies on how to learn. In our analyses we find that our students use very traditional forms for learning practices and the way they use the computers is mostly as a very traditional tool for writing and gathering of information. This becomes a relevant find for us in light of the competencies that are stressed here. Many of the goals mentioned above are not mentioned by our students in the interviews. Quite the opposite since they specifically mention that they do no like to work in groups. It is important to stress that they are not conclusive in what they say.

3.3 Mediated action, agents and tools

Over recent years, there has been a shift from content-based teaching to skills-based teaching in Norway with the new Knowledge Promotion reform in 2006. This Knowledge Promotion reform draws heavily on the learning theories that propose that learning is an active process, where learners must actively build knowledge instead of solely being seen as passive recipients of information (Bråten I. , 1996). The approach presented in the Knowledge Promotion reform is seen as having huge benefits as it is thought to develop the skills needed

for the modern workplace, such as problem solving, critical thinking, and independent learning.

We will attempt to discuss students' learning activities, by describing their use of OneNote at school. According to Vygotsky the learning and development are two sides of the same coin, and most development is not possible without some form of learning (Dale, 1996). All learners have a potential for development. This potential should be the starting point for all teaching (Igland & Dysthe, 2001).

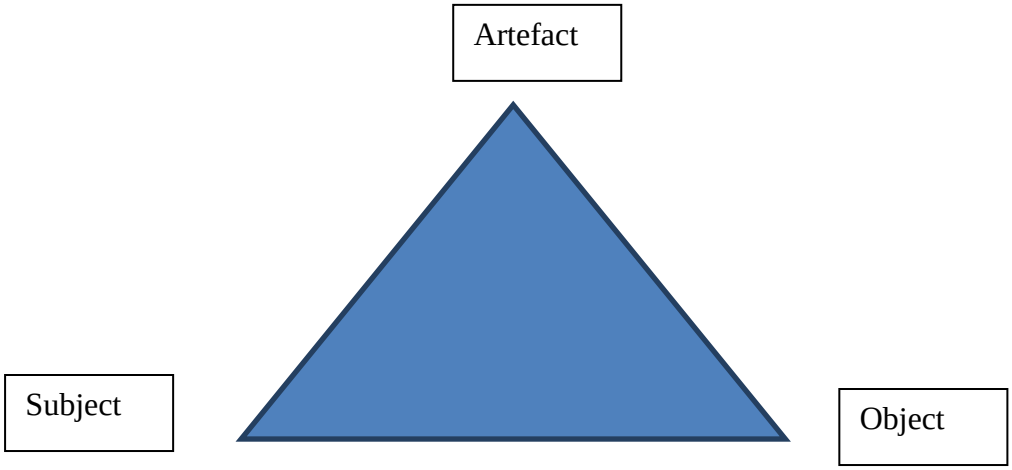

Figure 2

The triangle in figure 3 illustrates how the subject and the object are directly and indirectly related via the artefact or tool. The subject makes use of one or several artefacts to influence the object. This situation is true in all learning. As an example we can look at how a child creates an arrow for his bow. The child uses a knife to shape a twig. The knife is then his physical artefact or tool, which he uses to form the twig to his image. The mental picture he has of how an arrow should look like is then a mental artefact or tool, which too helps him in creating and recreating the object.

It is possible that the child is not able to recreate an arrow on his own. He is not that advanced yet. However, it is entirely possible that the child is able to create the arrow with the help of another being, either an adult or another child. This is functions that are under development and these functions that the child can do with the help of another, is what Vygotsky calls the Zone of Proximal Development (ZDP) (Igland & Dysthe, 2001).

Today we are surrounded by technical and physical tools. These tools help us and facilitate us in a way that was not possible only a few years ago. Examples might be the use of GPS to find your way while driving, the mobile phones that not only are used to make calls but also to organize your social life with calendars and addresses, or the personal computer where you store all your contacts. This shows how these artefacts can facilitate and make everyday tasks easier. The individual's ability to make use of these artefacts will often be decisive for how well they do in the modern technology society. This is also true in school.

Our understanding of learning as a social cultural activity in collaboration with others is based on Vygotsky's social cultural theory. His theory is the idea that most cognitive development happens in interaction with others and that interaction with others that are more knowledgeable is necessary for maximum learning. This is at the core of the idea of ZDP. The range of skill that can be developed with adult guidance or peer collaboration exceeds what can be attained alone. The approach he takes to cognitive development is socio-cultural, working on the assumption that "action is mediated and cannot be separated from the milieu in which it is carried out" (Wertsch, 1998).

Vygotsky believed that the development of understanding requires the learner actively engage in making sense of the information that is available. This is a shift from knowledge as a product to knowing as a process. Learning, according to Vygotsky, is best understood in light of others within an individual's world. This continual interplay, between the individual and others, is the basis of the zone of proximal development (ZPD). The zone of proximal development is thus defined as the intellectual potential of an individual when provided with assistance from a knowledgeable adult or a more advanced child. During this assistance process, an individual is guided by another student or adult. The individual learner is by the help of the others able to later act on his own and obtain an intellectual growth. It is our beliefs that Vygotsky's theory coincides with the way students learn how to use ICT in class. And by using his theory we can look at the potential each student has to learn in this environment.

Cognitive development does not only happen in the interaction between students but also between students and the cultural tools they use to make sense of their world. Knowledge is not individually constructed, but in interaction with others or the cultural tools used. Remembering, problem solving, planning, and abstract thinking have a social origin. In our

day technical tools are used to gain mastery over the professions and computer mastery in school (Igland & Dysthe, 2001, p. 77). Cognitive development can be understood as the transformation of basic, biologically determined processes into higher psychological functions.

Another thing we are interested in looking at is how mediated action can be used in understanding students' actions. Mediated action is defined by Wertsch as focussing on "agents and their cultural tools" (Wertsch, 1998, p. 24). Wertsch argues that it in many situations is impossible to separate the agents and the tools, because in most instances both the skilled user and the cultural tool are needed to reach the result. What then is the doing of the individual and what are the possibilities inherent in the tool? Wertsch calls this the "irreducible tension between agent and cultural tool" (Wertsch, 1998, p. 30). We therefore wish to look at how students, in groups or alone, use the cultural tool OneNote.

Implications for teaching and learning are amongst other that the teacher is there to facilitate the potential of the students and that learning requires the active involvement of the learner. The teacher should direct and guide the activity. The responsibility should always be on the learner who by collaboration with other students will find how learning can be obtained in collaboration with students and teachers alike.

In this thesis we want to use Vygotsky's concept of mediated action as a tool for analysis. We follow the clarifications of the concept as set out by Wertsch in his book "Mind as Action". We focus on the agent and the mediation the agent carries out with the artefact (Wertsch, 1998). This is because it seems impossible to us to analyse the agent without the mediated action. The agent is able to solve a problem with the help of the tool. However, the agent may be helpless if the tool is taken away (Wertsch, 1998, p. 29). Since mediation is often described as how humans use artefacts to understand and influence the world around them, we find that it is impossible to analyse one without the other.

3.4 Learning and cultural tools

The development of new tools plays an important role in the social cultural understanding of learning. Many of our thoughts about students' learning activities are connected to the way Säljö presents learning, and are directly related to Vygotsky's perspectives around artefacts and mediating as mentioned earlier. Vygotsky introduced the idea of two types of tools,

physical tools and intellectual tools. Säljö argues that the division between physical and intellectual tools is artificial, and that it makes more sense to see both as sides of the same coin. He argues that in practice it is impossible to separate physical and intellectual artefacts.

When talking about mediated action, we must also explain the term artefacts. Artefacts are the tools used to manipulate the world around us. Säljö states that artefacts can be both physical and based in language, in fact that language should be seen as a selection of tools, because even though "language tools is not things with a physical dimension, language and communication have material sides and material consequences" (Säljö, 2006, p. 32).

By mediating the world through the different tools at our disposal, we gain access to knowledge built up by society as a whole (Säljö, 2006). We do not need to know how a computer is constructed to use it to mediate our world. With out knowledge of how the tool works we are still able to sue it to pay our bills, stay in touch with friends, do our jobs etc. This is the case for most of the tools we use. We use them, but we do not necessarily know how they function. None the less, the tools and the ideas that are the basis for the existence of the tools shape our perception of the world. By using tools and ideas built up by society humans as a group, the individual can achieve more than he or she could on his or her own. The emergence of new artefacts can also bring about a paradigm shift in how we think about the world, learning and thinking. This seems to be especially true about ICT. The American researcher Donald Norman claims that "things that make us smart" such as ICT, is such a paradigm shift (Norman, 1993).

In our thesis we want to examine how our students mediate the use of a new artefact, how they appropriate the use of the artefact and how they cooperate using the artefact. In this particular incident we are talking about the implementation of OneNote in school. It is a good example how the use might different from what we as leaders imagine. It is the activity around the tools and the different ways to use it that are interesting to study. The ability to see how new artefacts can be used to solve a particular problem and that learning is an understanding of what relevant information is. Socio-cultural evolution is about the reciprocal action between tools, interpretation practises and individuals. We never get the cultural tools fully developed, but we have to make use of our experience and ability to reconstruct part of their perspectives and insights to create new meaning in the mediating of the artefacts. Relating this to the classroom we can say that the student are in a constant changing

communicative practice that forms them and how they look at learning, at the same time as they also form or change the tools when set to work in specific situations. We find this interesting because as school leaders we are all the time asked to introduce new artefacts, both physical and based on language. By analysing how one artefact is used in mediation by students, we can then use this knowledge to make further plans when introducing other new initiatives.

We will later on in the analyses look at how the student reflect on their use of OneNote in the learning situation and if this differs from how the leaders have reflected on the process of introducing OneNote at school. Interesting perspectives here might be if OneNote is used just as a note taking software, or if the students on their on have found other beneficial uses.

3.5 Leadership and the theory of distributed leadership

Spillane defines leadership as an influence relationship. Leaders influence followers by motivating actions, enhancing knowledge and potentially shaping the practice of followers. These influences are connected to the core work of the organization – teaching and learning in classrooms through teachers. Distinguishing between leaders and followers – at least analytically – helps build a deeper understanding of the nature of these influences and how leadership connects to classroom practice through followers (Spillane, 2007).

We wish to use the distributed leadership theory from Spillane to explore and explain why initiatives from the school leaders are so important for the work with students in schools. That motivating the teachers and showing them how to use ICT tools in class is the best way to succeed in implementing ICT and ensuring that it is used pedagogically. The leaders have in most cases few ways to connect to the classrooms and to know what is going on there. It is useful to reflect on how the leaders will influence the teachers, here by Spillane called the followers, and by that also influencing what goes on in the classroom.

Current reform efforts seek fundamental changes in teachers' instructional practices in terms of both the content they teach and the pedagogic practices they use. Understanding the link between leadership and instruction as it plays out daily in school is a critical component of understanding this change process (Spillane, 2007, p. 161).

Defining leadership and management as an activity allows for the possibility that people in various positions in an organization might take on the work (Spillane, 2007, p. 3).

Distributed leadership is an activity in which the leaders participated in interaction with each other. In this perspective the day to day administrative management is not included. The leadership activity involves influencing others to achieve new, hopefully desirable ends. It means to transform existing ways, upsetting business as usual in schools and classrooms (Spillane, 2007).

This project is an example on how a policy by the principal might help to distribute the different leadership areas among the other leaders in the group. The day to day administration of a school with 850 students and a staff with over 100 teachers is complex and divers. It is impossible that all the leaders have the same knowledge and skills in all the different areas of management. The specialized tasks vary from ICT technical, exams, student management, budget, personnel administration and so on. In this particular project we are talking about implementing OneNote as a teaching strategy in the school. As we will see later in the leadership strategy meeting only one of the leaders was responsible for instigating, implementing and seeing the project through. It is not the number of individuals but what they contribute to the task and especially how the expertise for carrying out the task is distributed among them. Hence, if one person has the expertise to perform a particular routine effectively, involving more individuals may be a waste of time (Spillane, 2007, p. 152). This is an important part of the discussion and not only because it is important to establish if this is a rational way to organize our work, but also if it leaves us vulnerable. By that we mean if too much responsibility is put on one person only, sickness or leaving the organization might mean the end of the project.

Spillane stresses the importance of being connected to the classroom. Sometimes that can be done by carefully monitoring classroom activity. Or by assessing student work or reviewing teachers' lesson plans as in the case of "Spanning the Boundary at Hillside Elementary School" (Spillane, 2007, p. 31). In that particular example the principal managed to gain insight in what was done in the classroom by different initiatives like correcting students work or organizing staff development meetings where pedagogy was discussed. Hence, the ability to influence the work that is done in the classroom is an important part of the leadership role. One way of doing it is participating in class as an active observer. Another way can be by

teaching. In Norway many school leaders also teach, in fact this is among teachers looked on as a form of legitimacy. Teaching students when they are using OneNote is a way to get a feel of how the students use it in their learning and to explore the many possibilities it has and how it is used.

A distributed perspective acknowledges that the work of leading and managing schools involving multiple individuals (Spillane, 2007, p. 7). As one might expect human capital development is also critical for a school to run effectively. This development happens through functions such as summative and formative monitoring of instruction and its improvement, support for individual and collective staff development and growth, and recognition for individual success for school leaders (Spillane, 2007, p. 3).

The reform in Norway has emphasized the use of ICT in all subject areas. They way this is done is mostly by including it in curriculum topics and providing net resources for use in class. Little has been done to show how the school leaders can help the teachers in this aspect. Current reform efforts seek fundamental changes in teachers' instructional practices in terms of both the content they teach and the pedagogic practices they use. Understanding the link between leadership and instruction as it plays out daily in schools is a critical component of understanding this change process (Spillane, 2007, p. 161).

The role played by the leaders in helping the teachers with their instructional practices is in our opinion vital. Just as we assume that the students know more than they do, it is easy to assume that the teachers know more about technology than they do. It is also easy to assume that new ways of teaching and learning are being implemented in the classroom. However, few have actually taken the measures required to find out.

4. Method

4.1 Introduction

The qualitative research interview attempts to understand the world from the subjects' point of view, to unfold the meaning of their expectations, to uncover their lived world prior to scientific explanation (Kvale, 2009). This quote exemplifies what we are looking to accomplish in our work. We are looking to understand what takes place inside the school and in the classroom. Many surveys are conducted in schools each year, but seldom do we take the time to actually talk with our students about their learning and how technology is facilitating this. We feel that our problem thesis is well worth investigating and that it will help us in our further work in school. Not only for us but also for other school leaders who are looking at what needs to be done to ensure that the measures we take in school are working as we hope they would.

The research is often divided into 5 different phases (Lund & Haugen, 2006). These phases describe how the research takes place from the planning to the conclusion. In phase 3 the design and methodical approach is described. In our work phase 3 can be described like this:

Time	Design	Participants
March 2010	Observation in class	Four different observations
April 2010	Digital Survey in school	All 280 first year students
September 2010	Group interviews	Two groups of six from two different classes.
October 2010	Group interview	Three school leaders

When colleting the data the first step is selecting the people or the sources of information that can assist in giving us the information on the issue being researched. There are a variety of ways of collecting data from sources and these include structured or unstructured interviews, focus groups, and survey questionnaires.

4. 2 Design

We have chosen to design our research as a cross sectional study where we both want to explore how students see their own mediation of a cultural tool and how the school leadership group views the implementation of a new software. Our focus here is to see how they reflect in this point in time. In order to gather information to carry out this study, we have used the following ways to extract information from our subjects:

Observations, a survey and three interviews.

The strategy is then both qualitative and quantitative. The observations and interviews are classed as qualitative, while the survey is quantitative, see Figure 4.

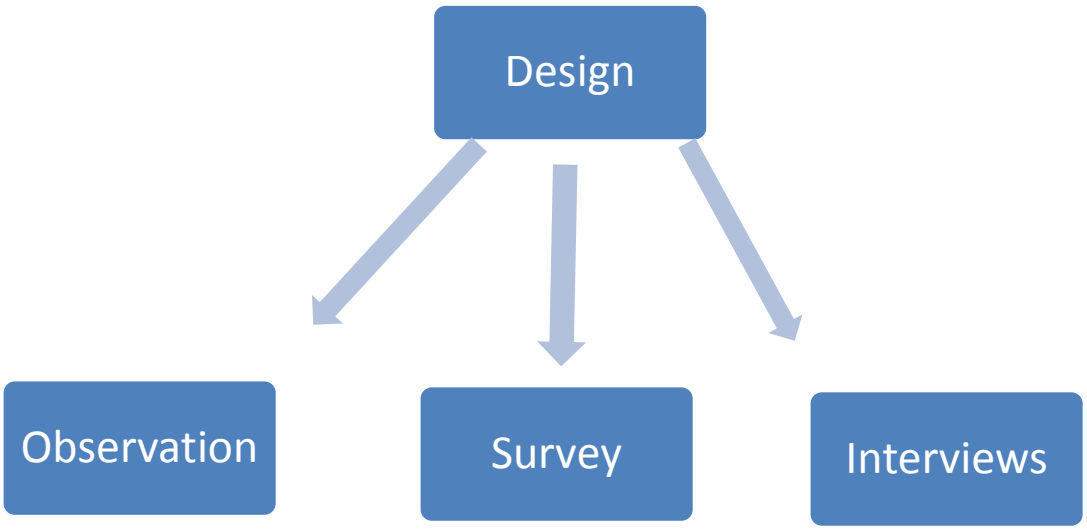

Figure 4

The background for our design is the introduction of the ”better exam results” project where the school introduced OneNote as a tool for our students. During the introduction period, the students were given three different workshops:

- An introduction to the use of the program with best practice and use of tools
- A workshop in better study techniques
- An introduction to ergonomics.

Once the program was in use, we started to think about how to gather information on students' use of OneNote and also to see how they felt about using it. Was it as useful a tool in assisting the students in their schoolwork as we hoped it would be? We were also keeping in mind how to collect information about how the leadership group thought about the implementation of the project.

We introduced several changes in our first grade classrooms last year. The first was that we provided all students with the program OneNote. We have also as mentioned above given them short introductory courses in the use of the program, one course of study techniques and another on ergonomics. To what extent the teachers have actively encouraged the students to use the software would greatly vary with teachers and subjects as this was a voluntary program as far as the teachers were concerned. When introduced OneNote was described as a useful tool for organizing the schoolwork for the students.

In order to judge what usage and practices connected to the software OneNote take place in the classrooms we have carried out two sets of observations in two classes. We chose to observe two 1st grade groups in science classes and one group in Norwegian class. This means we observed two classes in two similar situations. It gave us the possibility to observe how two groups of students react and interact with each other and the software.

In addition, after we have carried out the observations we interviewed two groups of students. These came with a half year interval. Originally we waited for a Share Point server to be able to observe how students work together. After it became obvious it would take too long to wait for the server we decided to change our observations to include how the individual student works with OneNote and if there is any collaboration between students. The interviews in groups is therefore conducted when the students are 2nd year students. This will probably factor into the conclusion as the students have had time to grow and mature and therefore probably have a more reflective view on their own learning environment. The aim of these interviews was also to get the students' thoughts and reflections on how the software influences their interaction both with each other and the software.

4.3 The implementation of the better exam results project

It initially started as a project between 3 schools in the region representing 3 different counties. The project was called “better exam results” and was an initiative from the school side to improve classroom. Sandvika has been a school eager to seek new ways to use technology and the use of OneNote seemed like an exiting approach to further the students’ use of ICT in the classroom. It was apparent to us that the way both teachers and students were using ICT first of all differed from class to class, but also that it was possible to improve. School- level factors matter when it comes to improving student learning and maintaining these improvements over time (Spillane, 2007, p. 3). The project involved educating the students in many aspects of using PC’s and ICT in general. They consisted of an expert teaching the student how to use the program, ergonomics by a physiotherapist, and study technique workshop by a college we have a cooperative agreement with. These 3 measures were spread through the school year and most of the students attended. See Table 1: Organizational routines around the OneNote project.

4.4 Qualitative design

Qualitative research is an umbrella concept covering several forms of inquiry that help us understand and explain the meaning of social phenomena with as little disruption of the natural setting as possible. Together terms often used interchangeable are naturalistic inquiry, interpretive research, field study, participant observation, inductive research, case study and ethnography. Qualitative researchers are interested in understanding the meaning people have constructed that is how they make sense of their world and the experiences they have in the world (Merriam, 1998).

In our study we were interested in seeing the picture from the students’ perspective and see how it correlates with that of the leadership group.

According to Merriam there are 4 characteristics of qualitative research (Merriam, 1998):

- Understanding the phenomenon of interest from the participants’ perspectives, not the researchers

- In all forms of qualitative research the researcher is the primary instrument for data collection and analysis.

- The qualitative research usually involves fieldwork.

- The qualitative research primarily employs an inductive research strategy.

Qualitative researchers build toward theory from observations and intuitive understandings gained in the field. In contrast to deductive researchers who "hope to find data to match a theory, inductive researchers hope to find a theory that explains their data" (Merriam, 1998).

We can in our study be looked on as inductive researchers as we are studying how the students are using computers to learn in school, and what theory can explain our findings.

In general, case studies are the preferred method when (a) "how" or "why" questions are being posed, (b) the investigator has little control over the events, and (c) the focus is on a contemporary phenomenon within a real life context (Yin, 2009). The questions we wanted to pose were how were the students using computers in general and more specifically OneNote in class and why were they doing it that way. This is a contemporary phenomenon within a real life context. We wanted to observe the students in class with different teachers and subjects and to observer what takes place in the classroom.

According to Yin, the more that your questions seek to explain some present circumstances (e.g. "how or "why") some social phenomenon works, the more the case study method will be relevant (Yin, 2009).

A common concern about case studies is that they provide little basis for scientific generalization. "How can you generalize from a single case?" The case study does not represent a "sample," and in doing a case study, your goal will be to expand and generalize theories (analytic generalization) and not to enumerate frequencies (statistical generalization) (Yin, 2009). It is our belief that this is what we have tried to do in our research and that our findings can be used in an analytic generalization.

Our research started in the spring with four different observations in class. We were observing the same group twice in two different subjects. We did this to get a better understanding of how the students were using OneNote and also as a background for our interview guide. It is a way to observe the subjects in a completely natural and unchanged environment. Our objective was to take our findings and compare what the students do in class to what they say they do. This is also called descriptive research.

By using a case study we are able to provide a more realistic response than if we had only relied on a statistical survey. Since it gives us a very specific view on how these 12 students view their learning and use of OneNote in school we have chosen to supplement our findings with the survey. This will give us the combination of an in depth study and a more general statistical information. The survey told us how many students use OneNote, but the interviews focussed more on why and how.

We have chosen to combine the three different designs to reinforce and evaluate findings over a broader scale. We have combined a qualitative design with case studies and a survey design.

In our research we wanted to observe the following:

- The interaction between students and the dialogues that takes place when the students are working on specific tasks
- How the students are using OneNote, alone and when collaborating with other students
- How the students share gained knowledge on how to use OneNote.
- The importance of the teacher's role

We were hoping that while observing how the students use OneNote we would be able to see a change in how they use technology in class. We were curious as to how they would collaborate in class and if it was possible to observe how they helped each other understand. Our findings would later be followed up in the group interviews we planned to conduct.

Our roles as researchers are somewhat difficult since we are doing the research in our own school. It is easy to loose sight of which role we attire at any given point. Since we are both

school leaders, project leaders, teachers and colleagues it might seem like a difficult mix of roles. Since the project was our own and the students only commented on the product OneNote and reflected on their own learning situation, this was not perceived as a problem. But it seems fitting to mention this here that this is an unusual combination of roles for a researcher. The only time this came close to being problematic was when the students mentioned their teachers in specific situations. But we were careful and had them only talk about teachers of subjects and no where in our thesis is any teacher or student mentioned in a negative way.

We considered the possibility of conducting the research in two different schools. Considering the timeframe we were operating under and the work load involving two schools we decided on a study with one school. The advantages were many. First of all it was easy to select student groups and to coordinate when their schedules fitted ours. It was easy to ask permission from the teachers and little time is spent travelling between workplace and test-group. It was also easy for us to make a survey and use the learning management system (LMS) as a way of distributing it at school with our first year students. Finally it was easy to involve the leader group and to examine what was being planned for this particular project.

Our research can not be classified as action research, but since we are conducting research in our own school we can compare it to action research. Action research is based on the proposition that generalized solutions may not fit particular contexts or groups of people and that the purpose of inquiry is to find an appropriate solution for the particular dynamics at work in a local situation (Stringer, 2007).

Action research is a reflective investigation of a personal interest, problem or challenge. The process begins with the development of questions, which may be answered by the collection of data. Action implies that the practitioner will be acting as the collector of data, the analyst, and the interpreter of results. A clear action research project will be built on a strong identity action, while an evaluation will necessarily have to imply a greater distance considering that you have the task to evaluate something with a critical view. It is important that you in the research work reflect on how the relation between you and what you are studying influence your results (Fangen, 2004, p. 134).

However, we are aware of the need to be critical to our own results, since we are part in this project. We have tried to ensure that we have the necessary distance to evaluate this project in our school. This has been done by including the whole of the leadership group when the project needed to be discussed.

- Prolonged engagement. Interviews and focus groups should provide all participants with extended opportunities to explore and express their experience of the activities and issues related to the problem investigated.

- Persistent observation: the credibility of research is enhanced when participants consciously observe events, activities and the context over a period of time. Consciously observing and taking note of events places a premium on taking note of what is actually happening, rather than describing it from memory.

- Triangulation: the credibility of a study is enhanced when multiple sources of information are incorporated. Using a combination of qualitative and quantitative research gives us a combination called triangulation and is a way to take advantage of both methods in the best way (Lund & Haugen, 2006).

Our research is conducted in one school. When deciding on whom to use as informants, the choice is tightly connected to the generalization of the expected results and the statistic probability of these generalization, also called external validity (Lund & Haugen, 2006).

External validity refers to our ability to generalize the results of our study to other settings. In our example, could we generalize our results to other classrooms or also other schools? The results will be based on the answers from the selected group. How sure can we be that these answers represent a sum of what students the same age would answer in other school? The same question can be asked when it comes to other students at the same school for that matter.

When it came to selecting informants we already had some guidelines we had to follow. We had to choose students among the first year students since they were the ones involved in the project. The question about how to select the informants depends on the generalizing of the results and the reliability of these generalizations. The results will be based on a certain

number of students choose, while the problem to be addressed concerns all the students (Lund & Haugen, 2006, p. 102).

How can we be certain that our findings will be relevant to all our students in school and later on to other schools in Norway? Based on this uncertainty we chose to select students from our general studies. This is our largest group of students with 180 students in each age group. This seemed to us to be a reasonable choice for this research. Still our research is small and generalizations are difficult in this area. Based on that fact we do not think it likely that we will be able to generalize further to the target population of high school students in Akershus. This is due to the difference in school populations across the county (Lund, 2002).

We originally wanted to observe two 1st year classes, and interview one group of students from each class. In order for us to be able to generalize our findings to the next level, which will be the student body at School X, we need to ensure a random sample of students within each class. We also need to make sure that the two classes we wished to observe are randomly selected from the six 1st year classes attending at School X. Since we decided to interview the groups in their 2nd year it is no longer important to have two different classes. In the 2nd year the students choose between many different subjects. They have 15 hours or 3 days of own choices of subjects. The students we interview will therefore have many different teachers and it will be possible to see contrast between different practices.

4.5 Quality –validity and reliability

We have, in deciding on a qualitative approach, given much thought to the question of validity. What we see as the main area we need to be aware of are – does the design ensure that there is concurrence between what we want to examine and what we actually examine? In other words are we finding the answers to our thesis questions? This is discussed in:"4.6 comparing interviews and observations". Whether we managed to ask the right questions to answer our thesis questions relates to the validity of our findings. There are always threats to the validity of findings. In our case one of the main challenges has been to ensure construct validity.

In choosing the design we have chosen, with observations, survey and interviews we hoped to be able to triangulate between what we saw students were doing, what they themselves en mass stated that they were doing and how a sample of them thought they were doing. Through

the triangulation we hoped to check the reliability of data. However, since we use qualitative methods as our main way of collecting data it is clear that the reliability of our data can be questioned. Whether or not the students were influenced by having visitors in the classroom during our observations and thus changed their behaviour or whether the interviewed students told us what we wanted to know is something we cannot be totally sure about.

We have tried to ensure that our questions had little room for misunderstandings, that the students knew why we were in their classrooms and that they didn't feel pressured into partaking in our interviews and thus put the validity of our research into question. However this is one of the challenges with qualitative approaches.

The other main point, and in our view the most important one, is the question of how reliable our data will be. It is natural in this discussion to bring up the fact that we are school leaders carrying out research in our teachers' classrooms, with students that have to relate to us in both roles. There are many issues here that may interfere with the reliability of data. Students may fear us, they may want to ingratiate themselves, and they may answer questions with a wish to be loyal to their teacher. All this may influence how they answer the questions. We hope to avoid some of these possibilities by aiming towards getting a random selection of students in our focus groups, as well as randomly selecting the classes that we wish to observe. We further hope that the use of focus groups will enable students to take an active part and let their voices be heard in the discussions.

4.6 Comparing interviews and observations

We chose to start our work with observations in class. We selected two different subjects taught in class with two different groups. One hour approximately with each group gave us a four hour observation period divided in four different observation sessions. After four different observations we decided to exclude one observation in Norwegian class. This was due to the fact that the teacher was inexperienced and did not lead the class in work as the other teachers. It is therefore our belief that those observations would be of little value for us.

Some advantages of observation compared to interviews are that they allow us to watch what the students are doing instead of relying on what they say they are doing. We are more likely to discover the real use of OneNote in class. We will be able to truly understand the work with

OneNote in the context of the classroom. Observing class will allow us to observe the unknown collaboration that goes on in class when working with OneNote.

By interviewing a group of students instead of one and one, the interviewees are more likely to contribute their views. The students may feel more at ease and spontaneous in a group situation especially if as in this context they are classmates. A group interviewer must balance a directive role with that of a moderator, which calls for managing the dynamics of the group being interviewed. It is important to both be loyal to the script of questions and the same time sensitive to the evolving patterns of group interaction (Frey & Fontana 1998).

There are seven stages of an interview inquiry that we will list here (Kvale, 2009):

- Thematizing, to formulate the purpose of an investigation
- Designing, Planning the design of the study
- Interviewing, conducting the interviews based on an interview guide
- Transcribing, Preparing the interview material for analysis
- Analyzing, decide on the basis for the purpose and topic of the investigation
- Verifying, ascertain the validity, reliability and generalizability of the interview findings.
- Reporting, communicate the findings of the study and the methods applied.

The initial stage was important as we there lay the foundation for our work. The topic we were interested in was the use of computers in school and how the practices in class change when new technology is introduced. We started out with this as our motive and used the 4 class observations to map out our work. The process was ongoing at the same time as the initial project at school. This was a condition for our case study too. At the same time it became apparent that we needed a leadership angle to our research. That is when we also included a taping of a meeting in the group for pedagogical guidelines. Here we hoped to see how the project had a firm holding in the leader group and how the principal planned to see to it that the project was successful.

After the four observations in class we decided to do the two group interviews. By choosing group interviews we wanted to ease the tension the students might feel if they were interviews on their own. We also hope the interaction between the students would spark some new thoughts and ideas.

The main headlines in our interview guide were like this:

- Can you describe a situation where you have learned something new?
- Can you think about and describe a situation in school where you have learned a lot, or understood a new concept?
- Use of auxiliary tools – what helps you understand?
- Use of OneNote, books, collaborating how does your teacher help you?

a. Observation and interview timetable looks like this:

Table 4

Week	Date	Week day	Time	Class / subject	class	Group Interview
11	15. 3	Monday	09-10	Science	1sta	
14	7.4	Wednesday		Norwegian	1sta	
14	7.4	Wednesday		Science	1std	
15	8..4	Thursday		Social science	1std	

b. Explanatory guidelines

We wished to employ unstructured participatory field observation in our attempt to map out how students relate to the software and each other. Due to the fact that we are unsure as to exactly what we are going to find we wish to use unstructured observation, because this will allow us to map what is happening rather than what we thought would happen (Hauge, Lund, & Vestad, 2007). An unstructured observation can be characterized by the following: its point of departure is that everything is interesting for the interviewer. The problem to be addressed is relatively open because in an unstructured observation the researcher wants to be able register as much information as possible within a given context, and not limit it to specific

topics (Lund & Haugen, 2006, p. 170; Lund & Haugen, 2006). We have also decided in favour of participatory observation. This because we want to be able to ask the subject expand on what they are doing. If we were to be passive observers, this avenue would be closed to us (Vedeler, 2000). By choosing this method we hope to come up with a wealth of information that can help us answer our thesis question.

We also wanted to interview groups of students. This is because we were interested in knowing more about how the students think and reflect about their own actions in regards to the software that has been introduced. Since we knew that the formation of opinions and thought in the individual very often is dependent on cooperation with others, as well as dependent on the language used, we hoped we would gain a more accurate picture of how the students thought about the software and the uses of it if they had the opportunity to discuss benefits and drawbacks as a group. Focus interviews are often characterized as collective, dependent on relations within the group and the dynamics (Brandth, 1996). Morgan claims that ”focus groups are useful when it comes to investigating what participants think, but they excel at uncovering why participants think as they do” (Brandth, 1996, p. 147). Based on this we find that focus groups are a good way to explore what students think.

We also think that focus interviews help the participants put their experiences into perspective and create room for reflection. Since we plan to carry out these focus interviews on students at our own school, where we both work as leaders, it is also important to make the situation as unthreading to the students as possible. Focus group interview, where the participants to a certain extent can set the agenda themselves, will help ensure greater validity.

4.7 Observations of students in class - background

Before we started participatory observation, we carried out a trial observation, to check the suitability of the checklist we had developed for observation. We carried out the trial in a 3rd grade class, where all students had received OneNote. The trial gave us reason to alter our observation note and make it easier to use. We had a better idea of what we were looking for as it was a good way for us to get started on our project.

Consent

Since we chose to observe each group for 2 sessions and it was voluntary for the students to talk to us during those two sessions, we opted to carry out the observations without student

consent. We were visible for all students in the classroom and the class was informed about the study we were working on. What we did observe was not sensitive information and therefore not a threat to the students' right to personal protection. We did get consent from the teachers involved in the observation study.

4.8 The survey

We carried out a survey in April 2010. The aim of the survey was to see how many students reported using OneNote and to see how they used the program. We included the survey in our work to make sure that we knew that the students were using the program and that we were not monitoring a project with little or no student participation. The survey was given to the students on the 29th of April. As part of this project it was interesting to see how many students use the program and how they use it. Out of the student body of 280, 179 answered, which equals 63%. The survey was carried to be carried out during one particular day, but it turned out that not all the teachers had read the instructions to instigate this in their class. Therefore we will conclude that the survey was taken on a voluntary basis. We still think that 179 students represent a substantial proportion of our student body and that the results are viable in a research such as ours. The survey in itself factors as support in our findings from the group interviews and observations. We have no reason to suspect that the answers are not representative.

However, with only 63% of the students answering, we cannot exclude the possibility that there may be differences between those who answered the survey and those who did not. Since we lost groups of students due to teachers who forgot to ask the students to answer, we assume that there are no difference between students who answered and students who did not. There may be differences between the teachers who told their students to answer the survey and those that did not, but all students have received the same training and introductory courses. 93.7% of those participating in the survey answered all questions. We therefore find that we do not have a problem regarding missing values in our survey.

4.9 Student interviews

The two interviews were both carried out in the beginning of the 1st semester of the 2nd year. The students were older and had had time to reflect over their learning and use of technology. The gender difference at our school is not visible in our interviews. In focus group interview 1 we talked to 4 boys and 2 girls. In focus group interview 2 we had 3 girls and 3 boys. This has

to do with how we chose the groups for interview. We asked the teachers to select students that had finished their tasks as we took them out of class. The groups are thus selected, but not by us. One can argue that this might influence the representatively of the students, but we feel that this possibility is very small.

In contrast to the observations focus group interviews are more personal. We therefore had to ask the students permission before conducting these interviews. This is because areas like work habits, the practices and social networks they are a part of are mentioned in the interviews. Since students might find this rather personal, it seemed natural to ask for consent once they were part of the focus group. In order for this to be an informed consent, we notified the students prior to the interview and gave them the option to withdraw from the interview.

5. Presentation of data, analyses and discussions

5.1 Background

One of our goals in our research is to find out how students see their learning situation with the use of OneNote at school. By asking this question we are looking at how students reflect upon their own use of technology in relation to learning at school. Our initial engagement was to investigate what happens in the classroom and see how students actually use the technology they have at their fingertips. We had an initial theory that they would report that they worked more collaboratively than they used to before the software was introduced, and we expected them to be confident users, due to the training they had received. In this paper we are focusing on the thesis question and concentrating on the use of OneNote specifically and not technology in general. Although when observing the students use in class we have noted many different ways to use other programs to assist the learning process. This will be briefly mentioned later while discussing what the students are saying in the group interviews.

In addition we wanted to look at how the leadership group at School X reflected upon how the process of introducing OneNote at school. Our point of departure is to see how well the introduction of OneNote is rooted in the leadership group and if the reflections of the leaders in anyway coincide with what the students say.

As stated earlier Norway has had a major change in school policies through the Knowledge Promotion reform. In the intersection between the traditional concept of learning and the new way of thinking outlined in the New Knowledge promotion, the choice to change is no longer solely that of the individual teacher. The school leaders are to a much larger degree held responsible for ensuring that the students are getting the education laid out in the political documents. By introducing this project we had the opportunity to investigate these implications further. Thus it is interesting to us to see how a project like this is introduced and managed and if it results in any changes in the way the students perceive their learning and how the leaders reflect on their practice. This is included in our analyses later on.

As described in the design we have carried out 4 class observations, one survey and two group interviews. Here we will discuss the students' responses in light of the theory outlined in chapter 3. We will also try to point out any inconsistencies in the students' responses and try

to address these. As a conclusion to our discussion we will analyze and discuss our findings and see if there are similarities or discrepancies between what the leadership group is saying and what the students are saying.

New competencies will be needed in the future and there will be a shift from teaching by the book to teaching for the knowledge society. It is clear that learning today has moved from being able to quote what is known, to being able to question the known and create new knowledge (Säljö, 2006, p. 225). Much of the changes in school policies are grounded in a strong belief in common knowledge building laid out by Vygotsky and Säljö. Would students' actions and statements reflect these changes or would they report a usage which has developed little since the last reform? For us this is interesting, since it would give us information on how students use and view their own school situation.

Our work started during the spring semester of 2010. The groups we chose to interview and observe were two different first year classes. The choice of those two classes was random and the student group represents the student body. We did not look at the students' grade levels or attendance. Both groups were very academically inclined since it is fairly difficult to get admitted into our school. The average grade you need to attend our school varies between 4 and 5. In Norway that is considered quite high. Because of this we have a slightly higher number of boys than girls in our school.

5.2 Analysis of survey, student interviews and observations

Survey findings

The most important findings from the survey are the number of students that use OneNote on a daily basis as a tool for school work and whether or not they see it as a useful tool. These findings are graphically displayed in Figures 3 and 4.

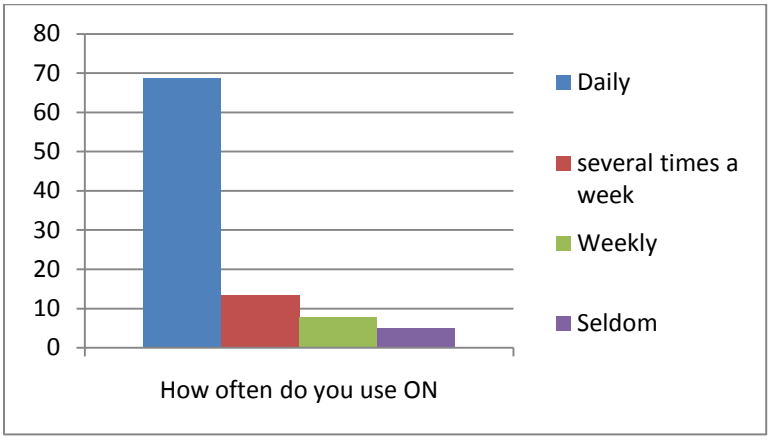

Figure 3 How often do you use OneNote?

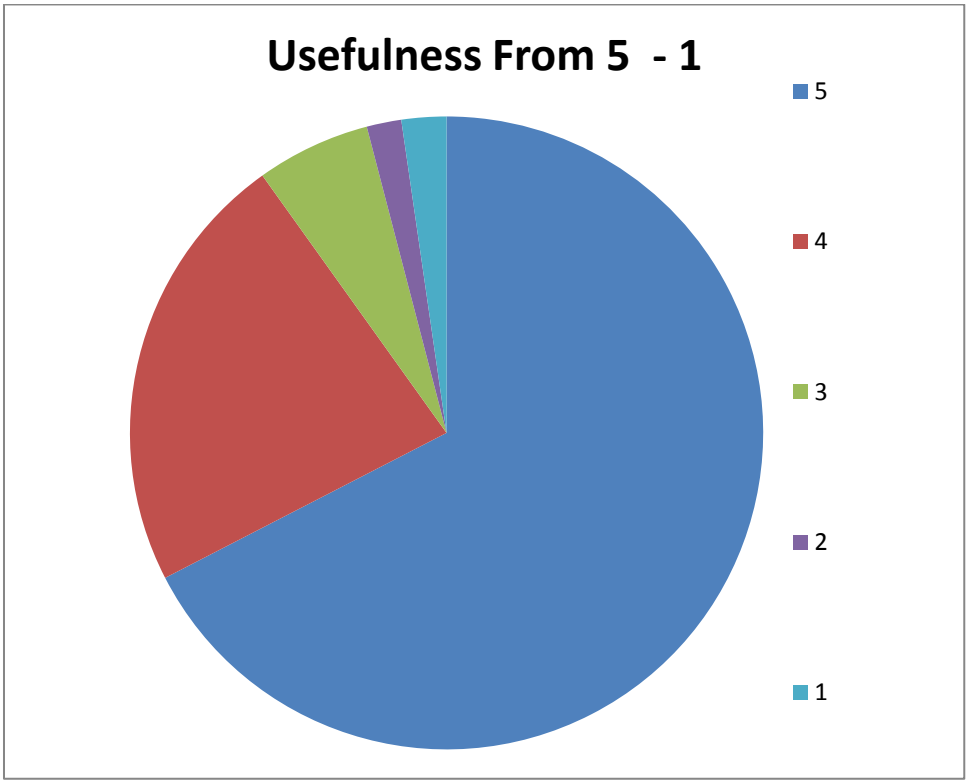

Figure 4: "On a scale from 1-5, where 5 is the highest, how useful would you say that OneNote is to you"

These findings coincide with what we saw during our observations and also during the group interviews. The students find the program very useful and they use it on a regular basis.

Other findings from this survey documented the use of OneNote by the students on specific topics related to use. Our findings here were also related to what we found in the group interviews. According to the survey the functions used by students on a daily basis are quite

simple, easy to learn functions. From their answers they seem to know only the most common features, but have little knowledge about the more complex features within the program.

Students were asked to list which features in OneNote they used. The answers can be read in the table below:

Table 2

Use of drawing	84,9%
Screen dump	57%
Print to OneNote	37,4%
Sound recording	44,1%
Searching	55,9%
Favourite marking	40,8%
Page templates	41,3%
Not answered	6,7%

Students draw (84,9%), they dump images from the net onto their computers (57%), they store other documents in OneNote (37,4%), they use the possibility for sound recordings (44,1%), they mark important things in their notes (40,8%) and they use templates (41,3%). We are astounded that not more than 55,9% use the search option, because the search option was what we as teachers and leaders saw as the most interesting feature of OneNote.

The function mostly used by the students is, as shown in table 3, drawing. This is mentioned in the group interview, but when we were observing the class saw little use of drawing. When the textbook suggested that they draw a picture in their notebook, they preferred to paste a picture from the net. From class observation appendix 4:

> All students prefer to find the illustration through the net and copy it into OneNote none chose to draw themselves, as suggested by the textbook.

When we look at the different ways to use OneNote as found in table 3 we can distinguish between functions that are useful for exams, tests and project work. Those are: Screen dump to gather information from the internet, Print to OneNote to gather information from the internet but also to transfer text from other programs like Word and PowerPoint, searching and favorite marking. All these functions are useful when gathering, searching and organizing your data.

These findings coincide with what we saw during our observations and also during the group interviews. The students find the program very useful and they use it on a regular basis. What is revealed in the survey that also is consistent with our findings in the group interview is that the students do not use advanced functions in the program. So in contrast to what they say, and how they view themselves as users of technology in general and OneNote specifically, we found that they are not advanced users at all.

This was an interesting finding in our general work with the project but not interesting in this specific research. We will therefore not to dwell on this here, but refer to the complete survey in the appendix.

Interview findings:

The students were asked to participate in an interview with us. We will now try to sum up our findings from the interviews. The interviews are coded and depersonalized. Students are given as boy + number, or girl +number. The interviewer is signalled as I (for interviewer).

One of the first subjects that came up in the group interview was the use of ICT. When it comes to teaching the students how to use ICT many mentioned in the group interview that they already new a lot of it. This was in relation to the workshop that was organized in the beginning of the project in the beginning of their year 1. Their response to this is noted below. We were interested in seeing what their reaction to the workshop was and if investing in training like this has the desired suitability. We found that they did not agree here and that the course might have been too early in the year and that it would have been better to learn it later. Either way it shows how students pay more attention to learning new technology if they immediately see the advantage of using it. The school leadership group assumed that what they did not learn at the organized course they would learn from each other when they needed to. This point of view was to a certain degree verified through our group interviews.

Here from group interview 1.

> I: So in many ways you are using OneNote the same way you were taught last year in the course?
> B1: I think we taught ourselves!
> G2: yes we taught ourselves...

B2: for the most part because we are pretty, I mean we have grown up with computers, so I don't actually think we need any help there.
G1: no,
B1: I don't really remember anything from that course,
B2: no. I think things get to you little by little. And that you just have to figure it out by yourself, and usually you do.
I: So you try it out yourself, do you ever ask someone?
B2: yes and no, you can try to find the answer on you own but it...
G2: if I see someone who has figured it out I ask them.
B2: yes.
G2: but mostly I figure it out on my own. (I1, p.12, ll. 27-36)

Here we see that the students interviewed state that they don't think that they have learned much from the course in OneNote given by the school. Instead they seem to see themselves as autodidact in the software even though they may ask other students for help if they need it. The leadership group assumption seems to coincide with that of the interviewed students in this instance.

The next question we were interested in finding the answer to was how they use the technology provided by the program in class and at home. This is interesting in terms of connecting our research to the theory we use. It is directly related to the way the student mediate the artefact and how they claim the use as their own and in what kind of environment they see the use for this.

When asked, the students gave us plenty of examples of how they use OneNote. Some of the uses are not related to learning. In that respect they have taken a product meant for school work, and found different areas of use. They mention the different areas helter-skelter. They are amongst others:

They store receipts, take notes in class, store film clips, pictures and photos, definitions of words, illustrations for the solution of science questions and sound bites.

However, they report that the main use is to gather information. The program is created to take notes and gather information. They say they use the possibilities created by technology in getting the factual basis clear, in that they gather all information they find relevant in the program, as exemplified in this student's summing up of her use of OneNote: "You use it to

remember, really" (I1,p.8, l.19). She is not alone in using OneNote this way. If we then bring up the term mediation, which we want to use to analyse how and if student practices change when new software is introduced, we here see a clear example of how the software functions as a form of external memory for this student. In this we see that this student has recognized the need to use external tools to structure all the knowledge she has available. She knows that she is not able, and perhaps not willing, to keep it all in her head. She therefore uses the software to keep the information for her, until she needs it. Thus, it is possible to say that she uses the possibilities inherent in the technology to mediate the world she lives in. This ties in with Säljö states in his book "Læring og kulturelle redskaper" (Säljö, 2006), where he points out that people seem to be less interested than before in learning things off by heart, and find it unnecessary.

When interviewed the students talk a lot about motivation for learning. Our findings here are that what motivates the students varies depending on the situation or the context in which the situation derives. To place it in categories it can be seen like this:

Motivation at school:

Students interviewed reported that motivation for learning depends on the teacher, "the teacher I have there is very enthusiastic… he burns very much for what he does, that is really inspiring for us, too" (I1, p. 4, l. 24)

To master a skill outside school:

When the task is motivated by the end means:

"I want to learn how to drive a car" I1, p.3, l. 21),

When it includes expectations and support from their surroundings

"My father was there[...] that was inspiring and fun" (I1, p.3 ll. 6-8),

"my coach could give me more attention because there were few students there that day"(I1, p.3, l. 33).

Cooperating and collaborating

When it comes to cooperation and group work, our interview subjects report that they use the net to share files, notes etc, by using social networking programs such as Facebook, Skype, msn. Here are some statements regarding how the collaborate with their own initiative. They state that:

"it is ok if you have been sick a day or something like that, then it is much easier to send the notes and stuff" (I1, p. 18, l. 10).

"seldom go to each others' houses to do homework"(I1, p. 18, l. 14),
they "sit on separate computers and send" (I1, p.18, l. 6)

When asked, the main impression is that they see their own sharing of notes and presentations as the most popular form of cooperation. We get no evidence that they write much together. Collaboration for them is seen as sending documents, pictures and so on.

Some of them are openly negative to group work, stating that "I'm not fond of group work at all [...] there is always a lot of fooling around"(I1, p. 11, ll. 2-3). When talking to them on group work and whether this is a method they like when learning, the consensus is overwhelmingly negative. Large groups are singled out as the most inefficient way of working "The worst is those kinds of large groups with six people in a group and stuff…that is hopeless"(I1, p. 11, ll. 9-11).

However, when asked how they go about learning new things, quite a few of them state that they routinely ask fellow students for help with explanations. This seems to be a strategy mostly employed by the girls. The boys claim that they do not know who in their class they would ask. This difference is interesting seen in the light of gender research, but is not one we have chosen to dwell on here. It is interesting that as the interviews continued, most students recanted their former sweeping statements that group work is "the worst" and "hopeless". They all stated that group work could "be ok, too" (I1, p. 11, l. 20). Some students told us that they liked to copy fellow students when problem solving. Others stated that they preferred it when a student explained things to them, because the other student better understood where the difficulty lay (p.5,l. 1-30, interview 2). In our opinion this strategy has traces of master learning as described by Lave and Wenger (Lave & Wenger, 2003), and Vygotsky's concept of ZPD, while at the same time being in direct opposition to the statements over.

Our clear impression from our four classroom observations very clearly supports this find. In all classes students co-operated in solving problems, by talking together about possible solutions. The interesting thing is that they used a form of group work which was in most cases not initiated by the teacher for problem solving. This group work in the form of pairs, threes of fours of students working together is, based on students' statements, a form of mediation. This mediation is mostly done through language and inscriptions made available to

them through the computer. In Appendix 2, a science class where they were working with genes and heritability, we see an example of how this is done. The teacher uses a number of tools to explain and visualize for the students. Some of these tools are the website NDLA, which is a national database where teachers share lesson plans and resources, the textbook is also used in this lesson, in addition to the teacher himself and the students' own bodies. This excerpt is taken from the middle of the lesson, when the students have been instructed what to do and already have solved some tasks:

> At 9:20 am the teacher gives a task in NDLA: A wheel to click on to see what kind of DNA match they were. Some chose to copy this wheel in to OneNote and color it there instead. They also copied in the instructions from the NDLA web-page. All the students were using One Note now. They work in pairs to solve the task but the answers they come up with are individual. The way they collaborate here is to talk to each other, give instructions and advice. [...].A few use Skype to share notes.

Thus it seems to us that students not only mediate their understanding and work results through using the teacher as a mediating tool, but that they in this instance, where the teacher has introduced the problem to be solved, they talk, thinking collectively and trying out different ways of solving the problem orally first. It is possible to see this situation as an example of a community of practice as set out by Lave and Wenger (Lave & Wenger, 2003).

The wheel of heritability is in this instance an inscription they use to both solve the problem, but also focus on the problem. This way of problem solving and the use of language and inscriptions as mediating tools is described in Säljö p. 59 and further. Another interesting thing here is that the students' use of OneNote adds another mediation tool to their belts. The software OneNote, and the software Skype, make it possible for the students to gather the inscriptions they need, and in addition share these with other students.

Working individually

When they describe their own learning practices at school the picture changes. Five of the six students asked in interview 1 stated that when they want to learn something, many of them prefer to "sit by myself…and concentrate…sit in front of the computer and take notes" and they like "a quiet working environment". If this was the only image conjured up by the students, schools need never change.

However, students in group interview 1 also state that they learn most when having "an inspiring teacher". They talk at length about a teacher that teaches social science and geography. The teacher is described as good at visualization and at drawing the students' interest. This coupled with the fact that "I cannot avoid listening to his voice, the way I can with some of the other teachers" is what makes him a good teacher according to the students. The students agree that an inspiring teacher is best complimented by having inspiring students. Together the two create the best learning environment. But even though the students state that both are needed to create a great learning environment, they are unsure as to their own role in this.

Learning strategies

When we asked the students to reflect on their own learning strategies, they pointed out the traditional strategies such as taking notes, reading, sitting by themselves and concentrating, but not one of them saw the extensive pair and group work that takes place in classes as a learning strategy. This is interesting; especially since much of the cooperation happen on student initiative. When asked about this, students stated that one reason to cooperate with others was to save time. It seems to us that they are not conscious of the amount of cooperation that goes on in the class rooms.

When interviewing the students we found that most of them have a clear view of what is considered learning by them, which is to "see new connections…across boundaries", while knowledge is considered knowing facts. And the students state that "facts we can find, but the connection is different". We see this as an example of what Säljö describes in his book Læring og kulturelle redskaper, where Säljö states that the world of knowledge has changed, and that it no longer is efficient to try to know everything, but instead we should try to find ways of interacting with the expanding collective memory (Säljö, 2006). The students seem to have reached the same conclusion. In our view this again are examples of how the students mediate the world around them through the use of the software OneNote. They use the program to collect all the facts and then with the help of the teacher they connect the missing links and this is the end product they use OneNote to document. In itself OneNote is only a software program used to take notes. With the teacher and fellow students new meaning is constructed.

If we then look at how they try to structure their interaction with the collective memory it was our initial assumption that students would see their own interaction within the frames of mediated action. We thought that this mediated action would manifest itself as a high degree of cooperation and teamwork in the class room. This we assumed based on the possibilities we saw in the technologies, coupled with our initial knowledge of our students. However, when asked directly students state that they are not overly positive about group work, which they deem to be inefficient, if we judge by their statements such as "The worst is those kind of large groups with six people in a group and stuff…that is hopeless" (I1, p11, ll. 9-11). From this it seems to fair to assume that students do not mediate their knowledge building through common practices as set out by Säljö (Säljö, 2006). However, we observed that group work took place, without the teacher's instigation such as in this instance from a science class:

> The tasks set by the teacher are what we normally see as individual tasks, i.e. questions in the book to be answered by the students. However most students do them in pairs and threes, talking together as they solve the problems. Quite a lot of students cooperate to a large extent. Whether this is intended from the teacher is not clear. The students take the opportunity when the teacher goes round helping other students. Most questions in the class seem to be asked other students, rather than the teacher. This frees up the teacher to focus on those students who need more help.

This coupled with statements from students such as "If there is something special we wonder about[…] then we might ask someone else" I1, P. 10, ll.30-31), and "I feel that when you cooperate with other students, on group tasks and such stuff, I actually find it very informative" (I1, p. 7, ll. 4-5) make us wonder whether there is not quite a lot of mediation between students with the view to build common knowledge together. Whether the interviewed students see this group work as a learning strategy, we are unsure about.

The students are quite vocal and clear in their listing of what learning enhancing strategies and tools they employ. Most of them use the program OneNote to help them structure their notes, and consider themselves quite sassy users "we are raised with the computers [I] don't think we need any help with that bit" (I1, p. 12. ll. 24-26). Most of them state that they use the program to create structure by grouping themes, collecting pictures, definitions, websites, etc. They also state that they use the program to organize their private lives, by gathering important information such as receipts etc on their OneNote. The artefact OneNote becomes a

mediating tool for them, in that they use it to store information, and thus the program functions as an external memory for them. This ties in with Säljö's view that cultural tools have changed greatly during the last few years. The computer is one such cultural tool which helps mediate our world. For the students the software OneNote is a mediation tool to organize their world. It functions as an external memory, which is vastly expanded from earlier versions.

What they then remember and use later on will be dependent on what they have stored in the software. Thus what they choose to store can also be said to be mediation. From our observations we can say that students are influenced by what the teacher write down on the whiteboard. When the teacher writes things down, between ½ and 1/3 of students make notes of it. Thus the teacher's writing can be said to be a mediating tools, too. This finding ties in with Vygotsky's idea of ZPD.

Although the students state that they are very advanced technology users the survey shows that there are many advanced function they do not know at all. This is also confirmed in our interview when we make them aware of certain aspects of the program. Amongst others they did not know how to copy a presentation into OneNote. Many times the teacher will give a lecture using a PowerPoint presentation. Mostly the teacher will tell the students that the presentation is available via the LMS. But since they do not know how to convert it to OneNote they most often don't bother to look at it, or they just download it do their own computer in case they will need it later.

We also found that they use the traditional artefacts of pen and paper, when the electronical version is perceived as too complicated to use. They also still have a strong relationship with textbooks, which they see as a good way to gain an overview of a subject. They also use websites such as Wikipedia, for overviews and facts, snippets of films which have relevance for the subject studied. They also state very clearly that they use social networking websites to share and organize their materials. These networking sites are seen as easier to use than the learning platforms provided by the school. The students don't really see the learning platform as a viable alternative to the social networking sites.

"It has never really been an alternative. It has always been "let's do it on Facebook" sort of" (I1, p. 9, l. 27). When asked if they see Facebook as a disturbing influence, they state that in

their opinion “nothing much happens on Facebook nowadays” (I1, p.9, l.33-34) and “[I] think it is more useful than a distraction, really” (I1, p.9, l. 38-39). Thus the picture the students draw of the artefacts used by them, have changed considerably over the last few years.

Students also show that they have a clear understanding of the work needed to master essential skills. However, the strategies they list have changed surprisingly little from the strategies employed traditionally. They still state that they “cram”, “read”, “do tasks connected to what I read”, or “take notes to what I’m reading” (I1, p. 10, ll. 10-15) and state that they prefer to work individually (I1, p. 11, l. 8). Thus, according to the students a number of the old mediation techniques when it comes to mastering a skill are still in use, but without a close interface to the new artefacts, such as OneNote.

The teacher’s role

But the most used mediation tool to enhance understanding is the teacher. All of our interviewed students state that the most important learning tool they have, is the teacher. An interesting point made in our interviews is that the students see a change in the teacher’s role. He or she needs to be engaging and be able to draw them into the subject, but the students now see the teacher more as a guide who takes them to a vantage point where they can see the connections and what they describe as “the whole picture”.

The teachers who act as guides are described as teachers who “know what they are teaching us very well... and think it is fun themselves” (I1, p.11, ll. 33-34). They “bring their independent knowledge which can be somewhat interesting... helps you see the connection” (I1, p.11, l. 39-40). Seen in this light the teacher becomes another mediating tool which the students need to reach a higher understanding. This is again underlined by Säljö when he points out that the reading strategies are changing and that the reader no longer is passive, but takes an active part in the creation of content. This point is also underlined in the Norwegian policy documents. Reading is now defined as a key skill, which shall be taught in all classes. The interesting point is that reading is no longer only linking letters to form word, but is used to describe all kinds of information gathering skills.

Final analyses of student data

To sum up our findings we see that students use the software OneNote both as an external memory, in that they use it to take notes and store information.

Students say that they, with the introduction of the artefact OneNote, take more notes in class than they used to before the software was introduced. This is one area where the students report a change from what they did before the software was introduced. The period before the software was introduced is here when they were students at lower secondary high school, since they have used OneNote the whole period they have been students at School X. They take notes while they teacher is explaining and while working individually and in groups.

Another important find is how students see the role of their teachers. The students see their teachers as mediating artefacts, but they also state that:

B1 - The teacher sort of help you to see the connection while we sort of have all the facts in front of us ... through [OneNote] (I1, p. 19, ll.6-7). This statement is repeated several times in the interview. It seems to us that the students no longer see the teacher as the giver of the right answers, but that the role of the teacher has changed from provider of knowledge to guide and mediator.

The interviewed students in School X use collaboration and each other for common knowledge building without realizing that they do so, they use OneNote as an external memory and mediating artefact, and they see their teacher as the most important mediating artefact.

These findings give us as school leaders good indications as to what we should focus on in our further work. To us it seems that it would be productive to make students more aware of the strengths of collaboration and common knowledge building in addition to supporting the teachers in being more conscious of the role they have as mediators for their students.

5.3 Analysing the leadership group – decision and strategy meeting

One of the first leadership decisions made at our school was to start an extensive 1:1 laptop program from day one. Since day one School X has worked to fulfil the demands set out in the white paper St. meld. 30 (St.meld. 30 (2003-2004) Kultur for læring, 2004) and has had as a goal to find innovative pedagogical ways to use technology in school. Ever since the school started in 2006 the philosophy has been to be brave and bold and to embrace the opportunities there are in using technology (School X, 2007). As mentioned the early decision to turn the school into a 1:1 school equipping all the teachers and students with their own laptops, was

looked on as highly innovative in 2006. It has since become common practice with all high schools starting in 2009, but those three years head start we had were invaluable years for trying, failing some but mostly learning a lot. This innovative way of thinking has given the whole school a fundament to work on and to expand on.

The "Better exam results" project and the school's involvement in the project have been initiated by the pedagogical leader. She has been the school's contact person in the co-operation with Microsoft and the other two schools. She has to a large extent responsible for carrying out the project and she is the only one person knows the whole story around the project.

This analysis is based on a strategy meeting between 3 of the leaders in the leadership group. These three are the principal, the pedagogical leader and a department leader. Together they form the pedagogical part of the leader group and all aspects of pedagogical development is routed via this group.

The strategy meeting is coded as follows: the principal =P, the administrative leader responsible for the pedagogical development = PL and the department leader D.

> PL: Well it is me who has been responsible for this project
> D: yes because this has very much been your baby and the others are not very engaged or don't care too much about it.
> PL: I haven't really thought about it that much, because this project is so special since it is a tool that we have given the students the opportunity to use and they have embraced is to such an extent that it has lived its own life and that is pretty exciting. It is so little dependent on the teachers, the way the students use it. They only way they are dependent on the teachers is when the teachers ask them to close their computers (leadership conversation, ll. 255-262). [...]
> P: this is also much a decision PL had made on how much she wants to share with us. And how much she expects from the leader group. And I think that is where it is. So yes it is her baby, but it is not a problem because she has been very open about it. I note that to involve us would be the next level of the project, but I don't think we are there at all. But if we do discuss to implement this with everyone then we have to talk

about a strategy to do so. But still this is a very vital issue when it comes to note taking and that is where we are now (Leadership conversation, ll. 289-297).

It seems clear from the above that the leadership group is aware of the fact that this project has been run by one single individual, but that this is not necessarily a bad thing. The principal states clearly that this is not a problem, since "she has been very open about it." However he states that it would be important to involve the rest of the leadership group if and when this project is taken to the next level.

One interesting observation here is that even the students seem to have taken on a leadership role here in that they have embraced the product and to a certain extent push the teachers to react to it.

PL: it is a tool that we have given the students the opportunity to use and they have embraced is to such an extent that it has lived its own life and that is pretty exciting. It is so little dependent on the teachers, the way the students use it (leadership conversation, ll. 274-276).

In this we see how leadership and the decision to use the software in many ways has been taken from the individual teacher and handled by the group of students as a whole.

When discussing the new strategies in the leadership group on how to move forward in the project, transforming existing ways became a major issue. After the interviews with students the leadership group had a feeling that not all teachers had assimilated ICT into their teaching. Some teachers are doing business as usual and to some the computers are an obstacle in their every day life. Or they try the "bend over here it comes again" strategy mentioned in the meeting.

D: Yes, and I wonder if we should signal [to the teachers] that this is something that will not disappear next year, and that there is something with some teachers who practice the bend over here it comes again, if I only close my eyes and wait it will go over by itself, not that we have many teachers like this, but we have some (leadership conversation ll. 542-545).

After interviewing the students it became apparent that not all of the teachers were letting the students take notes during class, and many were not letting them use the computer for school tests. It is apparent that if we want this project to succeed the leader group needs to take a more firm hand on how teachers are working in their classrooms. It was clear that to move forward it is necessary to take a closer look at what is happening in the classrooms.

We define leadership as an influence relationship. Leaders influence followers by motivating actions, enhancing knowledge, and potentially shaping the practice of followers. These influences are connected to the core work of the organization – teaching and learning in classrooms – through teachers. Distinguishing between leaders and followers- at least analytically – helps build a deeper understand of the nature of these influences and how leadership connects to classroom practice through followers.

At School X the pedagogical leader is clear that she wants to lead the project by raising enthusiasm and curiosity.

> PL: But my strategy then, if I can say it, is voluntary and enthusiastic at first and then we need to see how this works with students and teachers and then (coughs)in and have a straighter guidance afterwards and say that this is it, this is how we want it at School X (leadership conversation ll. 188-190).

Obviously the pedagogical leader has a clear strategy. By getting people who are enthusiastic about the project on board first, she has a number of followers that help create goodwill for the project. It is also possible that curiosity is built up as a result of this. In the start phase of the project leadership through motivation and enhancing seems a good strategy. Here we see how some teachers have grasped the opportunities to participate and thus can be deemed followers in Spillane's use of the word, while others are not taking part in this project and cannot be said to be lead in this direction. It would be interesting to know more about which teachers have chosen to participate and the reasons they have for this. Most likely it is the teachers who followed the project from the start.

During the discussion it underlined that the project will continue for another year.

> P: no we have been in a project period, meaning that the whole school is not involved. We can call it a test ride. We have not said that everyone should do this. There is a volunteer aspect here. But for the students I think it might be looked on as unfair that you are allowed to use it in some subjects but not all subjects. And also depending on where you are, it is not the same there either. And since this is a tool to equip the students for their exams as an addition to the use they have in class, this might be very serious because this differentiated approach might be felt as very unfair and with good cause. (Leadership conversation, ll. 223-230)

The principal points out that the project "better exam results" has not given all students equal access to the use of the OneNote. He points out that all students do not have equal access. He is worried that the difference in teacher support for the software might be seen as unfair. For him the idea that all students do not given the same opportunities by their teachers is a serious issue.

At the same time, the leadership group also discusses how to handle the fact that the situation regarding teacher voluntary cooperation has changed. Last year all the teachers who participated in the project had chosen to do so. They all taught 1st grade and the project was a 1st grade project only. The situation has become more complicated in that the students now are in the 2nd grade and not all the teachers are familiar with the software, or totally comfortable with the students' use of the software.

> PL: the way it is now, is because when we started this in the 1st grade, and then all the 1st grade teachers were involved and now it has come up into the 2nd grade and suddenly there are some teachers that have not been that involved who are confronted with the students' use
> P: mhm
> D: eh, perhaps in a way they really feel that this is a bit difficult
> P: yes, obviously
> D: since there are so much of this "shut down" and "now we are not allowed [from students]" and that is interesting. (leadership conversation ll. 214-221)

The question regarding voluntary participation or not, shows how difficult it can be to get the whole teacher staff on board. The dilemma of how to handle this problem is an ongoing one.

But it is interesting to see how the leadership perspective changes and the shift of responsibility from the principal, to the department head or the pedagogical leader. In the discussion they have the project is discussed as a joint venture where everyone gets a saying without to many decisions being made.

Our school has a large number of leaders compared to the number of teachers and students. From the start of the school in 2006 the number of administrative leaders has gone up from 5 to 7. This has resulted in the need to distribute the administrative tasks at school and also to economize the way meetings are conducted. Many meetings with many participants is a time consuming process. The leader group is made up of the following; the principal, the assistant principal, and 4 leaders who are called department leaders. Each of these has additional field responsibilities defined by specific tasks. These are: the administrative economic, study plans and timetables, exams and pedagogical development. In addition to that all the administrative leaders have the personnel responsibility of ranging from 9 to 25 teachers each. 4 of the administrative leaders also teach classes and this is approximately 30 % of their position. The leader group has reorganized this year and the result is that it is divided in two different groups, the administrative group and the pedagogical group. Both groups meet once a week and then there is a common meeting once a week were both groups meet together as one. As mentioned earlier it is the pedagogical group that has the OneNote project in general and the pedagogical leader who has the primary responsibility.

When discussing the project it becomes clear that there are other organizational obstacles to be considered in the structural planning. This proves to have a direct impact on how the teachers and students are able to use it. In this incident it is the implementation of a SharePoint server the school was hoping to use.

> D; do we have any cooperation in the teacher groups? Wasn't that one of the reasons for this project? We were hoping for a cooperative learning strategy here were we not? And that server that never came discussion. But some teachers are cooperating here? PL, no not here, we are not at that level at all, because as you say we are waiting for the server, and without it we can't do what we were hoping for. We have met a county wall. And we are not the only ones, because while working on the project I heard that another school had to rent usages of a SharePoint server outside the school. Because

we are not the first ones in the world to experience this (leadership conversation ll. 352-362).

Final analyses of data from decisions and strategy meeting leader group

When we set out to write this thesis it was apparent that we also needed a leadership angle to our research. As discussed in chapter 3 we have used Spillane and distributed leadership as our point of departure for this work. When analysing our own leader group in which we ourselves are members it is difficult to take a real analytic approach without getting to close or attached to our findings. It is however our belief that we have succeed in taking such a telescopic view of how the project has been carried out and that we have been able to answer our thesis question: how does the leadership group at School X reflect upon the process of introducing OneNote at School X.

It becomes clear from the conversation that there is confusion as to whether this is a project or has it been put into normal organization for the school?

> P: no we have been in a project period, meaning that the whole school is not involved. We can call it a test ride. We have not said that everyone should do this. There is a volunteer aspect here (leadership conversation ll. 223-225).
> PL: to sum up the project, if I am allowed to do so quickly, OneNote is a project that we called better result at exam, and that we made that is difficult to prove, but we are now in the 2nd year and we have entered into standard operation as the first year was more a project year (leadership conversation ll. 52-54).

The clear mismatch between what the principal and the pedagogical leader say is a trend in how this project is discussed. Why this occurs is most likely the difference there is from when you call it a project and when you call it a permanent way of the school operates. This is also the concern of the principal when he talks about the advantages the students who get to use this have over those who don't. It is something the leaders seem to be more afraid of than the students, judging form the comment they had about what the teachers let them do and what not. They talk about how some teachers say close the lid of the computer, but not in the context of being unfair or having a less advantage then other students.

6. Final reflections

In our final reflections we chose to look at our findings in relation to our two thesis questions:

1) How do students see their learning situation with the use of OneNote at School X?
2) How does the leadership group at School X reflect upon the process of introducing OneNote?

Students' learning situation

In our research we have conducted four observations in class, carried out two group interviews and one school survey. In all these the students have embraced the program OneNote and used it regularly in class. It varies how often they use it, whether the teacher does allow note taking, and in which subjects they find it best suited. They mention that it is not easy to use in math, but it is clear to us that OneNote has become a new tool in learning. It is also likely to continue to be so for the duration of their studies at School X.

The students look at themselves as confident users of ICT and what they do not know, they say they most likely will learn from fellow students. Vygotsky's theory coincides with the way our students reflect on how they learn to use OneNote in class. It seems to us that the individual student is by the help of the others able to later act on his own and obtain an intellectual growth. It is however our belief that although the students see themselves capable of learning what is needed, this in not always the case. Our observations, our interviews and also the survey the data we have found show that students in general have a very elementary use of OneNote. It was surprising that they still use OneNote in such a basic fashion. As discussed in the presentation of data we were surprised that there were so many functions related to exams, tests and project preparation they did not know about. This gives us cause to reflect on the role of the teachers when introducing a new tool such as OneNote.

It seems clear to us that the students use the software OneNote as a mediating tool, with which they negotiate and influence their own world. This tool is used to mediate not only their experiences at school, but they have also taken the tool into a private setting which we had not anticipated.

When reflecting on their own learning situation in class the students pointed to the teacher as the most helpful tool for learning. It is the teacher who helps them connect the meaning between the information they find and the answers they are looking for. It is the teacher who inspires and motivates them. It is also the teacher how can help the students in their learning both by providing the meaningful connections but also by helping them use the tools that are available. They want a teacher, who explains, motivates and draws them into the learning by engagement and enthusiasm.

As discussed in the analyses in Chapter 5.5, when our students are cooperating and using the technology to share it is often not initiated by the teachers. The interesting thing is that they used a form of group work which was in most cases not initiated by the teacher for problem solving. It is temping to say that much of the common knowledge building that took place in the classes we observed is invisible and not properly utilized, either by students and teachers.

From a theoretical viewpoint, the teacher is an important mediating tool. This also ties in with the idea of ZPD. The students see the guidance of the teacher as a necessary tool for learning, which is necessary for them to expand their own knowledge. Thus it is possible to argue that the teacher here helps develop the students' abilities and development (Bråten I. , 1996).

Students do also tend to use each other as mediating tools. They collaborate to large extent, and know who to ask when they need help. They are clearly involved in what collective knowledge building and share in a way that is reminiscent of Lave and Wenger's communities of practice (Lave & Wenger, 2003)

We mentioned earlier in our thesis that there seems to have been a general consensus that since young people have grown up with computers there is no need to educate and guide them in their use. And that practices for facilitating, collaborating, creating, (advancement), and sharing knowledge are seen as some of the most important basis for professional and institutional development (Hargreaves, 2003). We have observed that the group work mostly was initiated by the students and we had no evidence of initiatives of collaborating and sharing of knowledge instigated by the teachers with the use of OneNote. It is therefore tempting to conclude that School X by introducing OneNote has not succeeded in helping the students work closer together.

The teachers have not been asked in this research and our findings are based on observations and statements from the students. We believe this is interesting in our research and that it is also related to our thesis question 2. The students' reflections on the teacher's importance in their learning is related to how the leadership group at School X reflects upon the process of introducing OneNote.

The reflections of the leadership group

The principal voices concern as to the fairness in how the teachers act in accordance to using OneNote in class. And it is our belief that the leadership group has not influenced the teachers according to how Spillane defines leadership as an influence relationship. Leaders influence followers by motivating actions, enhancing knowledge and potentially shaping the practice of followers. These influences are connected to the core work of the organization – teaching and learning in classrooms through teachers (Spillane, 2007, p. 9).

> P: And since this is a tool to equip the students for their exams as an addition to the use they have in class, this might be very serious because this differentiated approach might be felt as very unfair and with good cause. (Leadership conversation, ll. 224-230)

In this project the alternative courses of action can be divided in two. When introducing a new initiative like this the leadership group might have taken a more determinative approach. Instead they opted for a more elective method. All the students and teachers were equipped with OneNote, but it was up to the individual to decide on how, if and when to use the program.

> PL: this project is so special since it is a tool that we have given the students the opportunity to use and they have embraced is to such an extent that it has lived its own life and that is pretty exciting. It is so little dependent on the teachers, the way the students use it. They only way they are dependent on the teachers is when the teachers ask them to close their computers (leadership conversation ll. 258-262).

This seemed in the beginning as a smart way to go by it since the students started using it in all subjects and they seemed to learn it either from attending our workshops or from fellow students. What we have found in our research is that the interviewed students state that some

teachers are actually an obstacle in the use of the program, and that the students could use more help from the teachers in learning how to use the program effectively. OneNote can also be used as a tool for cooperating and collaborating. But we have found little evidence that this is the case. This is also commented on by the students in the interviews.

In a leadership perspective we can cautiously conclude that in such a project the leaders need to take a more conclusive approach. As mentioned in our theoretical framework the leaders have few ways to connect to the classrooms and to know what is going on there. This research has given us valuable information on how the students reflect on their use of OneNote in relation to their learning. It has shown us that all is not according to our expectations. It might seem that many teachers still are insecure and uncertain as to what the students are doing when they are typing notes in class. Thus we have what the students call the new teacher saying "close the lid" (I2, p. 7, l. 41).

The leadership activity involves influencing others to achieve new, hopefully desirable ends. It means to transform existing ways, upsetting business as usual in schools and classrooms (Spillane, 2007). This is the opportunity for the leadership group in School X to take this decisive action and transform they way the technology is used in the school. We draw the cautious conclusion that otherwise this will not happen in the classrooms.

Conclusions

We have looked at how using tools and ideas built up as a group, the individual can achieve more than he or she could on his or her own. The emergence of new artefacts can also bring about a paradigm shift in how we think about the world, learning and thinking. For this to happen in the classroom the students need teachers who guide and show the way. And for teachers to be able to do this, they need leaders who can guide help and lead. Even if the goals behind the projects are clear to the leaders, this is not necessarily so for the teachers. In the busy classroom the teaching is likely to stay unchanged in many ways; unless a clear vision is communicated as to how the tools are to be used.

Limitations of study

This study has been carried out in a very limited scale with a very narrow focus. We have concentrated on how students at School X reflect upon their own learning when new software is introduced. One of the limitations of the study is that we cannot be sure that students would react in the same manner, if another software was introduced. We also cannot draw

conclusions for others than the participants in the project. The study is as such not the basis for generalizations to the student population of School X.

Implications for the future

The Norwegian government has invested heavily in the implementation of ICT in Norwegian classrooms. There are reasons to think that unless students have teachers who can guide them in the use of ICT, much of these investments will never be used to their full potential. In order to fulfil the intentions laid out in the Knowledge Promotion reform regarding the use of ICT, teachers need to be included in the strategies for use.

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Appendix

Contents

Appendix 1

1. 1sta science - Student observation

Group:……1STA…… No students 27

Subject:…Science……..Date:…15.03.2010…….

Time from 08:30 to09:30 Class met in the special science room 44-07 at the school on Monday morning at 08:30.

Lesson objectives: Working with genes and biotechnology and heritability

Observation: The teacher is experienced and comfortable in the role as teacher and leader of the class. He gives the impression of being very confident and a caring person. He knows all students by name and takes messages and gives messages back to the students with ease.

Planned teacher/student activity: revision of last weeks work, lecture and group work

Classroom structure: Big square room with desks in rows with two or three together. Some rows have four desks together. It is difficult to move between the rows some places. The classroom gives the impression of being random and casually furnished. Chairs are placed different places in the room and the students have to gather these before seated. We are assuming it is the students who decide how the room is furnished. When the first period starts at 08:30 16 students are present. The rest come within a ten minutes period. 27 students are present within 15 minutes. 2 students go to the ict center after first asking permission of the teacher Although it is unrest and many arrive late, the students act calm and quickly find their seats. The teacher gives instructions and the plan for this days work while the students start their computers and log on, talking with their friends. At 08:35 the teacher gives instructions by asking the students to sit in groups of 3, 4 or 5 were seated together in the beginning of class. Since some are occupied with talking they need to check with their partners to find out what to do.

Objective: to look through exercises they had as homework for this day. To check for understanding

The students start working by forming groups. They start the work by uploading OneNote and the notebook for this class. When working with group work OneNote was used either to look at answers already written, or to take notes. Textbook was open on the chapter where the answers were. When asked the students say they use OneNote for individual work only. They do not share notebooks. They don't mind sharing, but it has not been an issue. While most

students are very much on task some time is also spent asking about the weekend and other personal issues. The teacher walks around and helps both students who raise their hand and students who ask when he is close by. A student teacher in class also walks around and helps. Together with the two of us that makes 4 adults walking around the classroom. All the students use OneNote and they all have one notebook for each subject. Each subject is divided in themes or chapters from their textbook. We get the impression that this is used a lot. Observations: The teacher does not close the internet, students can surf the net for facts for answers and pictures. One student checking Facebook was asked: Are you using this for class purposes or private. When she replied private he asked her to close the page. Programs opened and closed while working: OneNote, Skype, Facebook, it's learning, msn, msn-mail, NDLA, Skolearena, Google images, vg.no, and Telenor. Some have Facebook as the start page for internet. Many students check once or several times during class. Skype is mostly used to chat and share notes. When working with OneNote they copy and paste pictures from Google images and NDLA. In addition they use the textbook to find the answers.

In this class we observed that the students were working mainly on tasks given by teacher. They were on task and focused. Little time was used on other programs, webpages. At 8:48 am the teacher interrupts and asks questions to the class about heritability. Some students take notes while he is talking (5). Questions and answers take 5 minutes. Most students are active either by raising their hand or by taking notes. Not many other activities are noted.

Activity during lecture by teachers.

Teacher shows how to roll his tongue. He demonstrates the genetic combination that can show us the different combinations in a rubric. Many students were taking notes. More when the teacher was writing on the whiteboard. More when the teacher said this is important. From 5 to 8 to 14 students are taking notes at 09:00 am. The students also visit Google images and Wikipedia. They are looking for illustrations /diagrams to demonstrate heritability, and definitions of words like (recessive) in Wikipedia and paste it into OneNote.

When the teacher was talking most students were just paying attention to the teacher not taking notes. Some looked at Facebook and Skype in between.

At 9:20 am the teachers gives a tasks in NDLA: A wheel to click on to see what kind of DNA match they were. Some chose to copy this wheel in to OneNote and color it there instead. They also copied in the instructions from the NDLA web-page. All the students were using One Note now. They work in pairs to solve the task but the answers they come up with are individual. The way they collaborate here is to talk to each other, give instructions and advice.

How to put the right info into the wheel.A few use Skype to share notes. They break for recess when this task has been completed and the teacher has the number that describes each student.

Short conclusion of the lesson:

OneNote is used to take notes individually. The students seem to be quite advanced users. They download files, paste images and links with ease. They collect school work and cleverly have all they need in one place. The take notes and answer check for understanding questions in OneNote. It is as mentioned earlier used for individual work and it seems they are not interested in sharing just because it hasn't occurred to them to do so. Sharing is done by talking and collaborating, not by sending files. As mentioned earlier only a few used Skype to send notes.

Appendix 2

1sta Norwegian - Student observation check list

Group: 1sta No students: 26

Subject: Norwegian– old Norwegian Date:7.4.2010…

Time from:13:10. to13:55

Lesson objectives :Learn about the influence Old Norwegian has had on the Norwegian language

Planned teacher activity…teaser on subject, lecture planned student activity group work, individual work

3. Fieldnotes with Norwegian teacher 7.4.10

Topic: Norwegian (teacher lecture on old Norwegian) 26 students

Layout of lesson: teacher/students common tasks, class discussion, teacher lecture. The teacher starts by outlining the plan for the lesson that day. Students have their computers up and running at the start of the lesson. All students have their own notebook for Norwegian in OneNote, with a separate heading for each subject they have dealt with so far.

Teacher starts the lesson by presenting a few short samples of old Norwegian and invites the students to try to decipher them, or come up with the equivalent Norwegian sayings. The students turn to each other and start discussion in groups of 2 or 3 for about 2-3 minutes. As far as we observed there no one took notes at this point. While the teacher is going through the correct answers about 5 of the students take notes while the others in varying degree pay attention to the teacher.

The next teacher initiated shift in the lesson comes when the teacher asks the students to in groups of four come up with 5 questions related to Old Norwegian. At this point students share ther work, with one acting as secretary for the group while the others bounce ideas for questions around. However, most of the knowledge sharing and building (if it is possible to talk about knowledge building in such a short period of time is oral, i.e. students talk about and share ideas, but do not take notes apart from the "secretary" who is left with the material.

The teacher then challenges each group to present one question to the rest of the class. The students individually take notes from what the teacher writes on the blackboard. Most students write the questions down. It seems that more students tend to take notes when the

teacher writes things down on the blackboard or screen. When left to take notes as they please, they seem to prefer to listen. This impression is strengthen by the fact that when the teacher lectures 3 students take notes, but when he writes things down on the slide, 12 students note down what he has written.

The teacher runs through the development of Old Norwegian in a 20 minutes long lecture. 10 minutes out into the lecture about six students are taking notes, while the others listen. When the teacher points out that Old Norwegian is core curriculum 8 students take notes. At the end of the lecture 4 students take notes.

All through the lesson the internet has been available to the students. However, we have observed only the following sites open on student pcs: ITL, Skype, Facebook, ITunes. The students seem to use these sites when the teacher switches between different part of the lesson, i.e. that the students check out Facebook while the teacher is noting down questions from other students on the blackboard. The students do these switches with ease and are quickly back participating in class when asked. The switches or breaks are short, mostly a couple of minutes, and the students seem to be handling multi-tasking.

Most common knowledge building in this class seems to be in class and group discussion, or question and answer run by the teacher. In the situations where the teacher asks the students to cooperate and talk things through with each other, they do so, but it is our impression that little of these discussions among students are reflected in their notes. We did not witness that results of students' discussions were noted down. The way they found their way into the students' notebooks were when the teacher noted the class' response down on the blackboard, and the students then wrote the questions down.

The teacher seems to be comfortable with his role and the use of technology. The PowerPoint presented is short and with a very conscious use of pictures and sound effects. The teacher's notes on the slides are also added in a clear manner.

Appendix 3

1std science class - Student observation check list

Group: 1std……No students:…24……

Subject:…Science Date:7.4.2010……..

Time from 11:30……. to 12:30……

Lesson objectives :Working with genes and biotechnology and heritability

Planned teacher activity…first lecture (before we came) helping students……

Planned student activity…group work, individual work……

4. Class: Science 1STD Teacher: Natural science teacher 2

Date 7.4.10

The classroom is large; the students sit in pairs or threes. The class consists of 24 students in this lesson. The classroom seems organized and the students sit in quite rows. However they move desks around from the original rows so making uneven rows. At the back of the classroom there are a number of cupboards that hold different equipment connected to natural science. There are a line of boys who have claimed the back row for themselves.

In this lesson the students work with solving tasks set by the teacher. The teacher has just finished going though new material (genetics) and the students are now asked to solve a number of tasks connected with what they have just read as well as what has been presented by the teacher.

Most students have created their own notebook for natural science, with different topics which they open when needed. In order to keep the students on task, the teacher has shut down the net for the students. They are therefore not able to go online in the beginning of class. The students start working as the lesson starts, many while the teacher still talks and explains what they are going to do. Within 5 minutes all students seem to have started solving tasks set by the teacher. Most choose to do so in OneNote (21), but two students consistently use Word. When questioned they state that this is because they feel more comfortable writing in Word because of spell-checks, but that they copy over into OneNote when they have finished.

Most of the students stay on task throughout the 45 minutes. The tasks set by the teacher are what we normally see as individual tasks, i.e. questions in the book to be answered by the students. However most students do them in pairs and threes, talking together as they solve the problems. Quite a lot of students cooperate to a large extent. Whether this is intended from the teacher is not clear. The students take the opportunity when the teacher goes round helping other students. Most questions in the class seem to be asked other students, rather than the teacher. This frees up the teacher to focus on those students who need more help.

Half way through the lesson the students find out that they need internet access. The teacher opens the net for the whole class and the students find the illustrations they need in order to solve the task. All students prefer to find the illustration through the net and copy it into OneNote none chose to draw themselves, as suggested by the textbook. In order to find illustrations, they use Viten, google, wikipedia, ITL. Other websites noted during this class were: Spotify, Footballmania and MSN. Although most students seem to be on task during most of the lesson, some have problems getting the teacher's attention. There is at least one student who is not seen when he puts his hand up. He waits and when he has waited 5 minutes without gaining the teacher's attention, he leaves the classroom and is gone for at least 15 minutes. The teacher does not seem to see or notice this.

Even though there seems to be a lot of works going on related to this particular class, a number of students also do other school work. When the teacher is in another end of the room, two students go through their Norwegian assignments and discuss them. They then return to the tasks set by the teacher. This pattern of on/off task work seems to be shared by several other students as well. They change what they are working on by switching between different screens and spending about 3 minutes on different tasks. This said, most students finish the task set for them during the lesson.

Appendix 4

5. 1std social studies - Student observation check list

Group: 1std…… No students: 27……

Subject:social studies Date: 8. 4.2010……..

Time from 08:30……. to 09:30……

Lesson objectives:

Planned teacher activity……first lecture…

Planned student activity… …task solving

6. Field notes Social studies teacher 8.4.10

Subject: Social studies Topic: war and conflict Class: 1STD Students: 27

The teacher comes in to the class and presents the plan for the lesson. The students are treated to a teacher lecture before lunch with task solving after lunch. The class starts and about half the students have not started up their computers. They do so while the teacher outlines the topic for the day and remind the students what they did last time. At the end of the first 5 minutes 14 students have ON up and running.

While the teacher runs through what they did last time, 2 students check their calendars for new tasks, while 2 play patience and mindsweeper. The teacher then gives the students tasks related to last lesson. Several students use the notes from last time to answer the set questions. The teacher then starts making the students conscious of the power of definitions. A number of important terms are presented and the students are asked to try to define them. This is done by asking students to put their hand up if they have suggestions. At this point in time 24 students have ON up and running, while 16 seem to be taking notes. The teacher then goes on to start his lecture. The teacher uses the whiteboard and a marker, but does not use any other props during the 20 minute lecture. When the teacher writes on the whiteboard, most of the students write this down. The teacher uses no props other than his own voice and ability to talk and keep students interested.

When the teacher starts going though the definition of civil war, 5 students are either playing games on their computer (patience and mind sweeper) or sorting through files on their

computer (2). The class as a whole is very quiet and almost passive. When one student asks a question, the teacher enters into dialogue with the students. The teacher notes down points on the whiteboard, and most students do the same. Through the 35 minutes few students enter into conversation or ask questions of the teacher. It seems to be mostly 4 boys who ask questions while the rest of the students are silent. The teaching during the observation is very teacher centered, with little possibility for student input or cooperation. When teacher asks a question that presupposes that the students go on line to answer it, the students take control and grab the opportunity. They quickly find the information needed to answer the question. The students toogle between websites and programs, while the teacher continues the lecture. Few of the students are actually doing things they are not supposed to. There is no possibility for the students to cooperate during this class. The notes could in many cases be in word, there is little use of the possibilities in the software to add pictures, sound, etc. Technology is an extra in this learning environment, but not used as a support for learning. The teacher does not use technology at all during this lesson other than for noting down absences.

Appendix 5

7. Interview guide students

Introduction:

Why have we asked you to come here? We (Ann and Cecilie) are writing a paper on how students use software. We are interested in everything that has to do with how you use ICT in class. We do not want to give you a lot of difficult questions, but we hope that you are willing to talk about it and let us listen to your discussions. All participants are anonymous and there will be no reference to school, class or names.

This interview is going to be a bit different than what you usually imagine when you think of an interview. We have a little task first, just to get you started thinking about ICT and work habits, and then each of you can share your thoughts, before we give you a topic that we would like you to give your views on. I may follow up with some questions, but not necessarily. Then we move on to the second topic.

I would like to stress that we are dependent on your input here, so we are very grateful for all your views.

Task:

Work habits (take 2 minutes and write down the associations you have). We are then going to ask you to share your thoughts

Topic 1:

What is the most important factor in your learning, what helps you learn?

Follow-up questions

1. What would you say is a good way of organizing your own learning and why?

2. How have you learned most of what you know about OneNote?
3. How do you use ICT when you are working in a group or pairs?
4. How is cooperation by the use of ICT facilitated in your classes?

Topic 2:

How does knowledge sharing and building happen in your classroom?

1. Do you learn anything when you are working with others?
2. What conditions do you think need to be present for students to work together at problem-solving?
3. Do the teachers plan for common knowledge building/cooperation in class and by what means?
4. If you were to give us advice on how to teach new students how to use ict for cooperation and knowledge building, what would you say?
5. How important do you think the teachers' knowledge of software like OneNote is for your own use?
6. What or who is most important factor in facilitating learning and co operation?
7. Who would you ask for help with school work, or a school project (at school or at home)

Appendix 6

8. Notater fra gruppeintervju 1 (I1)

20.09.10
10:43
Tilstede: Ann M og Cecilie M, 6 elever fra vg2, to jenter og 4 gutter. Intervjuet fant sted på et grupperom på biblioteket

Intervjuer: Så, det vi startet dette her med, var OneNote at vi satte i gang det, så vi er interesserte i det, altså hvordan var bruken da dere starta…. Men det første jeg vil at vi gjør, jeg skal fungere som ordstyrer her, så hvis det er noe dere absolutt vil si, så opp med hånda og kaste dere uti det, men jeg skal forsøke å fungere litte grann som ordstyrer…
Men det vi starter med... det er at vi tar et minutt og tenker over en situasjon hvor plutselig forsto ett eller annet, hvor du lærte noe nytt… det trenger ikke å være skole…men en situasjon hvor du opplevde at her skjønte jeg ett eller annet…..

E1 - Skal det være at vi skjønte noe av OneNote, eller…
I - Nei, det behøver ikke være OneNote, noe nytt, noe du ikke hadde skjønt eller lært fra før. Det kan være alt fra da du lærte å kjøre båt…til da du skjønte hvordan mikroen funka eller... til da du skjønte hvordan du skulle regne ut ligninger med to ukjent. Det behøver ikke være skolerelatert i det hele tatt.
E2 - Ja, altså skal det?
I - Har..Har…har alle situasjonen klar i hodet?
E2 - Ja, ja men, ja, ja
I - Hva var det, kan du si noe om betydning i situasjonen?
E2 - Nei, det var …jeg løste … det var et matte stykke jeg løste første gang her om dagen skjønner du
I - Okei
E2 - Også når jeg følte at jeg lærte det, følte at jeg mestret det, da følte jeg glad i hodet lissom
I - Mmh - litt sånn god stemning?
E2 - a
I - Hvordan var stemningen i klasserommet?, det var et klasserom, var det ikke det?
E2 - Jo, men det var bare jeg som satt og jobbet for meg selv, lissom og det var…eh, alle satt og gjorde sitt liksom
I - Det var ikke sånn … alle jobbet sammen, liksom?
E2 - Jo, alle jobbet
I - Hva var det som gjorde at det gikk opp for deg?
E2 - Mh, jeg vet ikke, jeg bare prøvde om og om igjen. Og når jeg endelig følte at jeg hadde gjort det riktig så så jeg etter i fasiten og så så jeg at det var riktig også ble jeg veldig glad.
I - Mhm, var det noe sånn annerledes lærersituasjon enn det du har til daglig?
E2 - Hvordan jeg lærte det?

Mhm, var sitasjonen noe annerledes enn den du er i til daglig? Hva var det som gjorde at du lykkes denne gangen?
E3 - Det var vel kanskje stemningen jeg var i, fordi jeg hadde lyst til å jobbe videre for å få det til.
I - (rasling med papirer) Hvis vi da tar neste mann, har du n….
E3- Mumler….Eh, det var når jeg lærte å skate i ramp
I - Mhm, ja
E3 - a var det noe som …. Jeg fikk det til plutselig
I - Var det noe i situasjonen som gjorde at du fikk det til?
E3 - Hva tenker du på?
I - Var det et eller annet i den situasjone, altså var det noen andre der, samtidig, samarbeidet dere eller?
E3- Ja, det var andre der plutselig,eh, eh jeg vet ikke, plutselig så, så bare fikk jeg det til
I . Den eller de som var der, hva gjorde de for at du skulle
E3- hva de gjorde? De viste meg det, de gjorde det selv liksom
I Er utstyret på Ann? Nå ble jeg plutselig veldig usikker her
I2, Ja, alt i orden
I -Hva slags, var det noe som var annerledes enn det du gjør til daglig når du skater
E3- hva mener du?
I - var situasjonen annerledes enn det den er til vanlig?
E3- jeg vet ikke jeg, eh annerledes det tror jeg ikke
I - nei?
E3- jeg lærte jo noe nytt da…
I - jeg bare lurte på, hva er det som utløser det at du lærer noen ting?
E3 nei si det
I - Har du lyst til å dele med oss?
E3 mhm- Jeg svarte riktig, læreren ba meg om å oversette en tysk setning, og jeg svarte riktig. Læreren ba meg om å oversette en tysk setning, latter -det skjer ikke ofte (latter)- jeg vet ikke hvorfor jeg plutselig svarte riktig, da
I Kan du si noe om situasjonen? Følte du deg bedre enn du pleier å gjøre da du gikk inn, eller
E3 - ja jeg følte meg bedre, nei …. (Latter) …. - jeg følte meg bedre etter på da.
I- ja
E3 - da jeg svarte riktig
I -og hva lærte du av det? Da du svarte riktig liksom?
E3 Jeg lærte vel ikke noe, jeg bare svarte riktig …Latter…. Det var kanskje litt flaks også, jeg vet ikke
I - mh…. Så du gjorde ikke noe spesielt? Sånn for å svare riktig i første omgang,
E3 - nei, bare tenkte
I- mh, skal vi gå runden rundt bordet her og ta dere tre også?
G4 - ehm.. Jeg prøver å tenke på noe, jeg tenker på ting som skjedde da jeg var litt yngre og sånn da,
I - du kan godt ta det
G4 - første gang jeg lært å sykle eller noe sånt. Det er noe jeg husker godt
I - mh
G4 - em det var ikke… det var kanskje bare faren min tilstede og sånn…

I - ja
G4 - så det var jo motiverende og gøy
I så det at han var der var…
G4 ja…. Det er det eneste jeg kommer på…. Det er sikkert mange andre ting
I - ja, Hva med deg (neste elev)
J1 - Eh, kanskje første gang jeg klarte å kløtsje…eller kanskje eneste gang, egentlig - latter - gangen jeg klarte å kløtsje hvertfall
I - ja
J1 -ja
I_ hva var det som gjorde at du plutselig fikk det til?
J1 - jeg prøvde mange ganger…. Også bare gikk det en gang også …
I - ja
J1 også gikk det ikke mer - latter
I - hva var det som fikk deg til å prøve så mange ganger da?
J1 - ne i jeg vet ikke jeg, jeg har jo lyst til å lære å kjøre bil da,
G3 - viljestyrke
I - det finnes bli med automatgir..
J1 - jammen… det er jo …greit å få….
I- ja. Hva med deg da+
J2 - Jeg husker første gangen jeg klarte et krysssløp som heter dobbelt H-løp…. Da hadde jeg øvd på det drittlenge og jeg var dritt lei av ikke å få det til også en dag… så var det bare … så prøvde jeg en gang og så fikk jeg det til.
I - mh, hva var det som gjorde at du fikk det til den dagen?
J2 - jeg vet ikke, det var få stykker på trening husker jeg, også husker jeg at jeg hadde ganske mye oppmerksomhet den dagen, også kunne jeg tenke litt mer fritt enn jeg kunne vanligvis
I - var det noen der som var spesielt hjelpsomme, ee- oppmerksomme?
J2 ja, treneren min var jo mer oppmerksom for hun hadde ikke så mange elever den dagen …..
I - Okei, alle sammen har tenkt noe på hvordan de lærer ellers, en skolesituasjon hvor dere lærte noe nytt, hvor dere fikk til noe nytt, hvor dere skjønte noe nytt? Der burde jo skje noe….
J2 - ABC- formelen i matte husker jeg, første gang jeg skjønte den liksom. Humring…
I - okei, hvordan var situasjonen?
J2 - det husker jeg ikke, det var bare sånn ….jeg hadde brukt veldig lang tid på å forstå den og plutselig sitter jeg med den og…å,ja det er sånn den funker.
I - husker du hvilke hjelpemidler du hadde tilgjengelig?
J2 -penn og papir… sitter ikke med Pcen akkurat der.
I gjorde lærern din noen ting?
J2 - nei ikke som jeg kan huske
I - opplevde du at læreren din hadde planlagt situasjonen?... Eller oppstp den?
J2 - jeg tror den heller oppsto, for den læreren vi hadde da, var vel ikke så veldig … systematisk
….
I hva tenker du om at den situasjonen egenlig ikke var planlagt da?
J2 - jeg har vel ingen mening om det, tror jeg… Vet ikke… Det er ikke noe jeg går å tenker over, om situasjonen var planlagt eller ikke, men jeg er glad for at det skjedde, det er jeg jo.
I - hvem andre har en historie om… eller husker at de har lært noen ting…

Stillhet
I - oi, da blir jeg nødt til å utpeke noen *(ler) Har du lyst til å….?
G1 historie, sånn skolerelatert tenker du
I - skolerelatert.. En skolesituasjon hvor du har lært eller forstått noe nytt
G1 - lærer jo noe nytt … kanskje hver dag… men det er jo av og til det bare går opp ett lys for deg, hvis det er noe vanskelig eller innviklet ehm… trenger jo ikke nødvendigvis interessere det for det, sånn som du gjør for andre ting… men, når det er skolerelatert da… men jeg vet ikke jeg altså…
I - men er det … altså hva slags situasjoner … hvis du tenker litt sånn generelt da … eller hva slags situasjoner er det dere lærer noe skolerelatert i?
G2 - engasjerende lærere
J1 - rolig arbeidsmiljø… altså sånn
G2 - ja
J1 - men engasjerte elever samtidig, men samtidig engasjerte lærere
I - da har en av dere en situasjon hvor dere faktisk husker at dere har lært noe nytt? Og kan si noe om situasjonen rundt det?
G3 - ja, jeg husker jo sånn i historietimen … det husker jeg veldig godt … for den læreren jeg har der er veldig engasjert
J1 - jeg husker veldig mye fra geografien … der hadde vi den samme læreren… det er ting jeg husker liksom helt…
G3 og han liksom får interessen fra alle sammen i klasserommet
J1 - ja … og tegner og viser og
G3 - det er utrolig bra…
I - Så den situasjonen … hvis du tar en historie situasjon hvor du tenker - Der lærte jeg mye
G3 … eehee… Det er jo spesielt mye sånn… da vi hadde om … erosjon og sånn - i geografien… også liksom hvordan han… for han brenner veldig for det han gjør da, det er velig inspirerende også for oss da, når han har time ...og jeg husker at han drev og viste masse visuelt med bilder og sånn da ... også…også…også er det veldig …når han… han gjør det sånn at det blir veldig visuelt for oss … da … når vi tenker oss erosjon og sånn…. Så tenker vi hvordan … det funker
I - hadde du noen hjelpemidler i tillegg til læreren din+
G3 - neei… det var vel heller han som benyttet seg av flere hjelpemidler
G2 - ja
J1 - mhm, vi brukte jo liksom Googlemaps og sånn, gjorde vi ikke det?
J2- Ja
G3 - ja
I - Og da du lærte mye… da gjorde han… hva var det han gjorde da? Hva var det han gjorde som gjorde at du lærte noen ting?
G3 eehh
I du sier at han har en
G3 - fanget min oppmerksomhet og interesse
I - for du sier at han har en påvirkning gjør du ikke det?
G3 - jo
I - Så når han er engasjert… gjelder det alltid?
G2 - jeg syns det liksom er den beste…
J1 - ja

G1 - ja, selv om han andre lærern da underviser, selv om jeg skulle være veldig sliten og sitte dypt inn i pcn så … likevel får jeg faktisk med meg en del av det han sier så… jeg klarer ikke å koble ut det han sier. (Generell latter) Det kan …..
I- han blir så engasjert at det ikke er mulig å koble han ut liksom?
G1 - som jeg kan gjøre med andre som …
I - Var dette …. Opplever dere dette som en planlagt situasjon fra hans side?
G2- Ja ….. definitivt
J1 - Han er veldig planlagt i timene sine … og det merkes
J2 - han kan stoffet sitt veldig godt, slik at jeg slipper og
Lese så veldig godt
J1 - det er sykt irriterende med lærere som har powerpointer og bare leser rett fra powerpointen liksom
Pause
I - flere situasjoner enn han ene læreren som dere har i historie? Hvor dere har lært noen ting?
J1 - lærer jo ting hele tiden, men det er vanskelig å sette fingeren på …å huske situasjonen…
I - hvis vi tar den siste uka, da? Har dere lært noe nytt den siste uka?
Pause
I- nå håper jeg veldig at dere sier ja, ellers….
(Humring)
G4 - jeg tror vi lærer noe hver dag
J2 - vi lærer noe hver dag
G4 - selv om vi ikke liksom er klar over det helt… vi er jo på skolen for å lære, først og fremst
I- mhm
I - kan jeg spørre dere hva dere oppfatter med "å lære"? Hva er å lære?
G1 - få en… få ny kunnskap
J2 - forstå ting
G3 - sammenhenger
I - er det å få ny kunnskap….. det samme som å forstå ting? … eller er det to forskjellige ting?
J2 - det er to forskjellige ting
G1 - Det er to forskjellige ting
I - så hva er da … mest å lære?
J2 - f…. Forstå, synes jeg i hvertfall
G3 – ja
G1 - det kommer vel an på
G4 - forstå er viktigst kanskje
I- når forsto dere sist noe nytt da? Og hvordan var den situasjonen? (Pause) for dere får mye kunnskap, men det å forstå, forstå noe nytt
G1 - det er vel det å kunne se sammenhenger da
I - mh
G1 - når du forstår det
Hvis du har evnen til å greie å tenke tverrfaglig… på mye… så …så kan man forstå ting
I - er det noe dere føler at dere får til? Hvis vi tenker oss om til en situasjon i forrige uke hvor dere fikk til det? Eller i uka før det, det behøver ikke å begrense seg til forrige uke…
G4 - jaa…
I - skal vi ta et minutt og tenke gjennom før vi kan grave oss godt ned i hjernekista?

(Stillhet
Noen spiser eple)
I Har dere noen ting?
Skal du være mitt utvalgte offer
J1 - jeg skjønte ikke , skal det være….
I- har du noe, ikke bare sånn du har tilegnet deg kunnskap … typisk sånn … når stod hvilket slag i historien men… sett en eller annen sammenheng eller...
J1 - forrige mattetime så var det ett eller annet med logaritmer, men jeg husker ikke hva det var…
I- nei, men du skjønte ett eller annet?
J1 - ja
I - hva var
J1 - det var ett eller annet med at X2 blir ett eller annet og … og hvis det ikke er X skal du ikke gjøre det.
I- ja… men hva var det som fikk det lyset til å gå opp?
J1 - jeg spurte lærern…. Jeg spurte lærern hvorfor det var forskjell, også forklarte han det
I - var det noen hjelpemidler involvert, eller var det bare han som forklarte?
J1 - det var boka da
I - hva var det han gjorde som gjorde at du plutselig skjønte det?
J1 - det var egentlig en ganske lett regel som han bare forklarte og så…
J2 det var en ganske lett regel egentlig
I- og du var ikke klar over den regelen
J1 - nei
I- så han gjorde deg oppmerksom på den regelen, og så …
J1 - ja
I - var det en planlagt situasjon?
J1 -ja, eh … eller, den var ikke planlagt, men det var jo i hans planer at vi skulle lære det da
I - men den oppsto litt der og da+
J1 - jah
I - så hva var det som gjorde at den oppsto?
J1 - det var fordi jeg gjorde et mattestykke og skjønte ikke hvorfor jeg fikk feil
I - så det at du går hen og henter et i anførselstegn hjelpemiddel han … og det at han forklarer mattestykket for deg, det er liksom det som er nøkkelen til at du …
J1 - jah
I - hva med deg?
G2 - mh … det blir vel det samme … man kommer på matte når jeg tenker på å forstå ting … da er det som jeg mest tenker på… men jeg liker ofte å få det forklart … læreren forteller det… da er det ikke alltid jeg skjønner det … altså … det er ofte ikke så mye jeg ikke skjønner, men det er ofte en liten ting … som er ganske viktig… da pleier jeg å spørre en kamerat som forstår det… og det hjelper… det hjelper meg mye mer i hvert fall
I - mhm .. Hvorfor det?
G2 - eh … kanskje når jeg snakker med folk en til en oppfatter jeg flere ting, jeg vet ikke helt
I - mhm er det et eller annet mellom forholdet...
G2 - altså ….
I - lærer- elev, voksen…

G2 - kanskje.. Vanskelig å si egentlig.
I- lytter du mer på…
G2- ja kanskje det
J1 Det kan jo være at eleven vet mer hvordan… han vet mer hvordan han skjønte det da
G2 - ja det er kanskje det
J1 - så han kan forklare det på en mer ungdomslig … eller en måte vi forstår det på da
I - mh
I - du har ikke sagt så mye… (snur seg mot G4) får vi høre om du …
G4 - da er det matte jeg tenker på da … det er da jeg lærer…. Forstår mest på en måte, da
I - mh
G4 - men jeg husker jo ikke en sånn konkret, en type situasjon hvor jeg forsto det der…
I - nei…
G4 - Det er sånn… jeg pleier å gjøre det hver time … for vi har noe nytt hver gang
I - og hvordan gjør du det da… altså hvordan … hvis du tenker litt mer generelt da …hva er det som gjør at du da…
G4 - det er vel mest at du prøver på samme oppgaven helt til du klarer det… da forsto du hvordan du gjorde det … sånn er det vel
I - ja…
G2 - matte og naturfag er jo spesielle fag også da… det er jo fag … der er det jo… man må gjøre oppgaver for å forstå ting, men de andre fagene er jo... Der er det ikke et svar, der er det ikke en regel…
I - de er mer resonnerende...
G2 - ja riktig
I - sånn sett, du kan tenke deg til .. Ting, ofte. Men det å komme til en sånn forståelse er kanskje lettere hvis du kan kjenne at "Å- nå fikk jeg det til" med matematikken.
I - eh.. Vhis vi går litt videre … så er det en del ting man kan bruke … altså det er matematikken som kommer igjen som eksempel hos dere alle sammen for det atte det er liksom så klart at her ser vi…Nå skjønte jeg noen ting..
G2 - ja
I - Eh … men, hjelpemidler… hva er det som hjelper folk til å forstå ting, hva er det som gjør at dere forstår noe nytt?
I- da har jeg en liste med ting vi har satt opp også… hvis vi kan gå gjennom … hva tenker dere er mest betydningsfullt når dere skal sette dere inn i noe nytt? … Var jeg klar i spørsmålsformuleringen…?
G2+ G3 - mh
I - eh… læreren som et hjelpemiddel … vi har andre elever … vi har lærebøker … Vi har OneNote … og vi har andre nettsteder og programmer på pcn
I - hva bruker dere når dere skal lære dere noe nytt? Hva er viktigst?
G1 - det spørs jo da, du må jo liksom lære det mest grunnleggende først da … få en oversikt over det… da er det jo greit med en lærebok … også .. Heller liksom… eh… heller grave deg litt dypere etter hvert da… gå litt lenger ned
I - så læreboka er viktig?
J1 - mh
G1 _ også lærern da
G2 - lærern er viktigst
J2 - lærern er veldig viktig for å forstå sammenhengen
G1 -ja

I - hvorfor er læreren viktig? Forstå sammenhenger, men….
G2 - noen av lærerne er jo flinke til å forklare ting, andre er ikke like flinke, men… Noen sier jo bare det som står i boka, og da kunne vi jo like gjerne godt det selv…
I (småler) - Ja det er litt sånn. Hva da med eh… andre elever, bruker dere dem som kilder til å forstå
G3 - nei
Ting?
J1- det er sjelden det hender matte
G2 - det er ikke så ofte, men … det er jo noen situasjoner sånn som i matte … det er veldig greit, men ellers er det…
I- jeg har observert litt sånn i timene, at når dere skal løse oppgaver og sånn, så er det veldig ofte dere løser dem i fellesskap...
G3 hvis vi har gruppearbeid og sånn
I - to og to, og tre og tre sånn.
J1 - ja
G3 - ja
I - hvorfor det?
G2 - det er vel for å få impulser fra de andre, hva liksom … hva de har fått med seg av tema også skal de andre … så kan de dele tanker og sånn
G1 - vi har sikker fått med oss forskjellige ting..
G3 - jeg føler at når man samarbeider med andre elever, på gruppeoppgaver og sånn, så syns jeg faktisk det er veldig lærerikt
I - mh.. Så da blir de andre elevene, sånn som du sa med matematikken, en måte å lære på… også. De har påvirkning på hvem dere, eeh hva dere lærer?
J1+ G2- mh
J2 - det går jo fortere og, da… det har litt med det å gjøre
I - det har litt med det å gjøre også? Ja? Er det sånn "jeg tar oddetallsoppgavene…"
J2 - kanskje (ler)
I - Delt der ja… Hva med OneNote? Er det noe dere bruker i sånt lærings…
G3 - ja
J1 - jeg brukte det mer i fjor enn jeg har gjort i år
G1 - særlig i sånne … hva skal jeg si…
G2 - faktafag… det er viktig… historie og sånne ting
J1 - det er mer sånn notere ned til .. Du tilegner deg jo ikke kunnskap fra OneNote
I - nei, du bruker det…
J1 - du bruker det til å huske det egentlig
I - så det blir som en sånn… hva skal vi si…
J2 - det blir som notater liksom
I - som notater , ekstern hukommelse liksom?
J2 + G3 - ja
I- Men bruker dere det til noe annet?... Altså sånn i forhold til læring og skolefag? (pause) Dere brukte det mer i fjor?
J1- jeg vil si mer i fjor
I - Stemmer det for dere?
G2 - kan hende det er fordi det er på starten av skoleåret og vi har kanskje ikke kommet helt i gang ennå
I - men

J2 - jeg bruker det like mye nå
I - hva med deg?
G4 - jeg bruker det faktisk litt mindre jeg og
J1 - vi har noen fag hvor jeg synes det er mye bedre å skrive for hånd
J2 - ja det er sant
J1 - i kjemi og fysikk er det mye lettere å skrive for hånd
I - er det sånn rent teknisk, med å få…..
J1 - jeg får det til, men det tar bare mye lenger tid
G2 - i matematikk… så er det mest på ark ikke sant…
I - mh
J2 - ja
I - Hvor mange av dere har full fordypning i realfag? Tre av tre
I- Gjelder det for deg også? At det er enklere å skrive notater andre steder hen?
G1 - det går jo fortere, men jeg får så vondt i hånden etter hvert åssåskriver jeg så stygt så jeg klarer ikke å lese det etterpå.
J1 - det er mye lettere å finne igjen når du har det på pcn
G1 - ja da kan du bare søk opp istedenfor å blad igjennom hundre sider.
G2 - det er jo egentlig som å skrive i word, men det er jo det at det er lettere å finne frem [OneNote]. Altså… det lagrer seg selv så det er lettere å bare lukke med en gang og så ferdig…
J1 - og så er det sånn at det går an å sende sånn… du har liksom de temaene øverst [faner] eller på siden, du har de øverst også har du de på siden, går det an å sende de på siden til andre?
I - til andre? Ah, ikke riktig ennå
J1 - nei for det syns jeg er litt dårlig med OneNote, det er ofte at man bruker itslearning og hvertfall på word
J2 - mh
I - vi venter i spenning på slide, styret… serveren.. Det har vi gjort en stund… en laang stund… Andre nettsteder, programmer dere benytter dere av, til … å lære ting+
G4 - det er jo ofte man trenger å få det litt visualisert da, særlig… altså sånn som vi snakket om i stad, med han læreren som ofte viste bilder, nå i historiefaget viser han små klipp… fra filmer som kan kobles opp mot faget, da
G2 - Wikipedia
J1 - Wikipedia
G2 - det er sånn… hvis du bare leser gjennom på to minutter, så får du med deg ganske mye… det er jo bare, bare fakta
J1_ også er det sånn, ofte øverst, så er det sånn sammendrag av alt
I- jah
J1- så da kommer du deg inn i selve greia
I- Mh, så… Wikipedia, filmsnutter, du sa facebook til å dele ting med…
J2 - ja, facebook er lettere enn ITL
G3_ Det er veldig lettvint å dele, organisere ting på facebook
J2- mye lettere enn på ITL
G2- Det går mye fortere der
J2 - enn grupper og sånt
G2- det er ikke vanskelig å forstå ITL heller men det tar litt lengere tid, så det er litt mer sånn…

J1 - jeg har aldri prøvd jeg

J2- det har liksom aldri vært noe alternativ. Det er liksom "vi tar det på facebook" liksom

I- føler dere at dere blir forstyrret og detter ut og gjør andre ting enn… andre ting på facebook eller andre sosiale medier? At man må sjekke statusen til kompisen samtidig som man skal jobbe?

J2 - jeg hadde mer trang til det helt i begynnelsen av første klasse, da det var helt nytt

G3 - ja

J2 - men nå er det litt sånn… det skjer jo ikke noe morsomt der, alle vet det

J1 - det er veldig begrenset hva som skjer på facebook nå om dagen

J2- det er ikke så mye lenger

I- det er i grunnen det. Ja?

G3- Tror det er mer til nytte, egentlig

J1- enn til bry

I - eh, hvis vi ser på … hvordan bruker dere OneNote til daglig? Sånn…

G3 - til å skrive kvitteringer og sånn med. Det er ganske kult

I - ja

G3 - har det på pcn istedenfor på et ark

I - yes, du tar, du bare sender til …pcen… eller til… OneNoten din… eller…. Gud, litt sliten jeg også nå… Så du bruker den til det. Det er en litt slik privat greie…

G3 ja

I- bruker du den i læringsarbeid annet enn til å ta notater?

G2 - oppgaver

G3- ja

I - mh

G3 - tegne strek med den?

I- (ler) forklar?

G3 - (Ler) du kan tegne streker og trekanter og sånn?

I - Du kan streke og tegne og sånn, ja?

G1 - jeg setter opp planer og sånn ja? For da går det an å bare trykke sånn tab, også får du sånn…

I - fine tabeller? Rutenett?

G1 - underpunkter og sånn

I- mhm. Det er litt greit… Så det blir sånn organisering eller…?

G1 - mhm

I - hva hvis vi ser på hjelpemidler som bøker og sånn, a? Hvordan bruker dere de når dere….

G3 - Leser

J2 - pugger

J2 - jeg forstår ikke når jeg leser, det funker ikke… jeg må ha læreren for å forstå, men bøkene for å pugge

G4 - jeg må gjøre oppgaver til det jeg leser, jeg

G1 - eller notere til det du leser

G4 - ja

I - så det å bare lese, det funker ikke?

J1 - det funker dårlig
G2 da er
G3 - det blir dårlig hvis ikke du leser det 5 ganger, men det gidder man som regel ikke, så da er det jo… ikke bra
G1 - det er jo forskjellig fra person til person, hvordan du lærer
G3 - ja
J1 dersom du klarer å konsentrere seg om det så er det…
G1 det er jo noen som klarer å få med seg … alt sammen… gjennom…første gjennomgang, men… ja..
I - let's face it, de er i mindretall
G1 - det vil jeg tro
I - hva med… dette her med andre elever… bruker dere dem når dere skal lære noen ting?
G2 - ikke hvis vi ikke er blitt pålagt å drive med gruppearbeid eller no'
G4 - hvis det er noe spesielt som vi lurer på og som vi ikke finner ut da… noe matte eller noe, så kan det hende vi spør noen andre
G1- ja
I - så hvordan… dere bedriver liten hvis jeg oppsummerer dere fire, så bedriver dere liten grad av læring i fellesskap. Dere bruker hverandre ikke til å gjøre…
G2- nei
G1- lite
J2 - jeg gjør det
G2 - det kan jo hende med oppgaver og sånn… ehm…ja
I- mhm, men dere vet ikke at …han er innmari god i fysikk, så da går vi og spør… hvis det er noe jeg ikke skjønner?
J2 - jeg gjør det
I - du gjør det? Du har en viss sånn formening om hvem i klassen du skal spørre om å hjelpe deg med ting?
J2 - ja
G1 - jeg pleier ikke å gjøre det ofte, det er bare...
J2 - det er ikke ofte jeg gjør det, men hvis jeg lurer på noe så … vet jeg hvem jeg skal gå til som regel
I - men det er lite gruppearbeid… rundt det å….
G2 - det er lite gruppearbeid
I - i forhold til det å lære seg
G3- hvis ikke læreren sier at vi skal gjøre det… Jeg syns ikke vi har for lite gruppearbeid… jeg synes vi har for mye
G2 - jeg syns også vi har for mye
G3 - jeg er ikke så glad i gruppearbeid i det hele tatt
G2 - det blir så mye tull
G3 - det gjør det
*I - Hvorfor det?
G2 - nei, så er det en som ikke holder frister og så blir det bare tull og...
G3 - jeg liker best å jobbe selvstendig
J2 - ja selvstendig, men i verste fall i små grupper, sånn to og to, da kan det være at...
G3 - det verste er sånn stor gruppe med 6 stykker på en gruppe og sånn

J2- da er det helt … det er ikke lære…. Det er helt håpløst
I - det er ikke lærevennlig, i det hele tatt? Nei?
G2- nei
G3- Nei, maks 2-3
J1 - da er det jo noen som gjør alt, også er det noen som gjør ingenting
I - mhm
G2 - jeg liker i hvertfall bare å sitte for meg selv og … eller konsentrere meg…eh..sitte foran pc og lese og notere ned…ja… jeg lærer i hvertfall best sånn, åssåhøre på læreren da… hvis du liksom kombinerer de to tingene så kan du ha gruppearbeid noen ganger, det kan være greit det og
I- yes så lærern hjelper til når dere skal lære ting?
G2- Ja
J2- lærern er det viktigste
G2 - det er derfor folk tar privat timer
I - Så hva gjør læreren… hva sa du nå?
G2 - det er derfor folk tar privattimer og ikke bare sitter hjemme og leser
I- ja?
G2 - noen gjør det…
I - mhm… er det, altså, dere har nevnt noen lærere som gjør dere engasjerte...
G3 - mhm
I - også går jeg utfra at de dere ikke nevner, de snakker vi ikke så høyt om … sånn sett, fordi de da hjelper dere ikke så voldsomt… hva er det med de lærerne som hjelper dere?
G1 - de kan det veldig godt… det de lærer oss
J2 - og de syns det er morsomt selv, i hvert fall…
G1 - mhm
G1- ja de har et sånn engasjement, da… åssåhar de litt mer kunnskap om det enn bare det de har lest fra boka, ikke sant…. Merker det veldig godt, om de bare… tar og leser det som står i bok…
G2- mhm
G1 - eller om de kommer med egen kunnskap som kan være litt interessant… hjelper deg å se sammenhengen og ja…
I- mhm…. Vi er spesielt interessert i bruken av OneNote. Det er jo en av de tingene vi på mange måter har hengt oss litt opp i
G3 - mhm
I -så vi har noen spørsmål på hvordan dere bruker OneNote… (stille) Der skal dere
Få lov til å kaste dere litt utpå.
J1- sånn systematisk?
I - sånn systematisk og litt grann hvordan lærerne legger opp til at dere skal bruke det. Emh… så noe om hva er det dere bruker One Note til, først? Dere bruker det til å ta notater, så langt har vi kommet, og det er jo det det er til for, men hvordan bruker dere det til å ta notater+
G3 - setter som regel opp sånne punkter.
I sånn, skriver, bullet-point list liksom?
G2+G3 mhm
I - Noe annet?
J2 - tabeller

J1 - noe… egentlig bare skriver av det som læreren sier egentlig, eller det poenget læreren har

G2 - det er delig å slippe å lagre sånn

J1 - det spørs hvordan…

J2 - det kommer veldig an på læreren

G2 - i word liksom. Jeg sette opp i grupper også flere, etter hvert kapittel eller tema

I - Sånn 1,2,3 eller etter tema?

G2- ja ikke sant

I -så dere henter ikke bilder eller limer inn filmsnutter eller gjør sånne ting eller?

J2 - bilder, det har vi gj… det gjorde jeg hvertfall når vi hadde geografi

G2+ G3 - ja

J2 - så har vi blitt tvunget til å gjøre det av norsklærern (latter)

J1 - Jeg har aldri gjort det…

J2 - hun sa sånn derre"også må dere legge til bilder"

J1 - mumler

J2 - jeg trokke det var så mange som hørte på det…

I - så dere gjør på mange måter mye av det dere lærte på kurs i fjor?

G2 - jeg tror vi har lært oss det selv

J2 - vi har lært oss det selv

G2 - det meste altså, vi er jo ganske….

J2 - ja

G2 - vi er oppvokst med datamaskinen, så…

J2 - mhm

G2 - tror ikke vi trenger noe hjelp på den biten…

I- nei…

G1 - jeg husker egentlig ikke noen ting fra det kurset vi hadde….

G2 - nei

I - nei, det var litt sånn…

G2 - tin kommer litt sånn etter hvert og du må finne ting for di du må finne ut av det, så finner du det ut selv som regel.

I - ja da fikler du rundt selv…Spør du noen, eller?

G2 - ja nei, det går ann å søke også , men det er jo..

J2 - hvis jeg har sett at noen får det til, så spør jeg dem

G2 - ja

J2- men jeg lærer mest ved å rote rundt selv

G2 -ja

I - får dere bruke OneNote på prøver… Var det noen av dere som var oppe til eksamen i fjor?

G4 - jeg var det

J1- ja

I - var det noen av dere som brukte det da?

J1- nei, for da kom vi opp i matte, og da er ikke OneNote noe…

G4 - jeg kom opp i engelsk

G3 - jeg tror jeg hadde det skrevet ut, faktisk, noen artikler jeg hadde funnet og sånn

I- mhm
G3 - for å … ja litt mer sånn…
I- i tilfelle.. Ja..
G4 - jeg bare tok det jeg hadde i hodet jeg
I - Men brukte du …. Ja….. Også vi som gjorde det så bra i engelsk i fjor. Vi hadde tenkt å relatere det til bruken av OneNote, men jeg skjønner at vi har jo ikke belegg for det nå (latter)
G4 - hva ble snittet egentlig? På engelsk?
I- det ble eh… litt over fire…. Det er langt over nasjonalt gjennomsnitt
J2 - hva ble det i matte?
I - det husker jeg ikke
(Latter)
I - men får dere bruke det på prøver? Bruker dere det på prøver?
G2- det er noen som har sånn skriftlig prøve på papir, da får vi ikke bruke det
G1 - nei
I - hva synes dere om det da?
G2 - Jeg hater det egentlig. For det at
J2 - ja det er skikkelig…
G1 -For atte jeg skriver jo aldri for hånd lenger
J2- du skriver mye saktere nå
G3 - ja jeg liker ikke å ta det for hånd.
I- Hadde dere bruke hjelpemidler - altså type OneNote - dersom dere hadde skrevet på pc?
G3 - det hadde jeg helt sikkert
G2 - ja dersom det er mulig, hvis det var lov liksom
J2 - det er jo ikke lov , tror jeg
J1- det er jo ikke lov å se på notatene sine til prøver
G2- nei
G3 - joa, er det ikke det a?
J2 - ikke under prøvene?
G4 - det spørs jo litt hva lærerne… legger opp til
J2 til eksamen? Er det jo?
I- der er alle hjelpemidler tillatt
J2 - ja det er greit, men ikke sånn
I - men man bruker…
J1 - kapittelprøver eller sånn er det jo aldri lov
I - nei… ER det et nyttig program synes dere?
G1 + G2 - ja
J2 det er det definitivt
I - men dere er også ganske klare på at det er begrensninger på det?
G4 - begrensninger på?
I -på OneNote
G4- hvordan da?
I - dere bruker den ikke så mye som i fjor, det er vanskelig å bruke det i matte …
J1 - tegne greier, det er ekstremt dårlig
J2 - ja

G3 - det er jo bra da

J2- det synes jeg er forferdelig dårlig

(Latter)

I hva var det som var vanskelig synes du?

J1 - nei jeg synes det er vanskelig med disse tegnegreiene, å tegne inn når du har skrevet notater, så flytter du notatene litt opp, også flyttes ikke det du har tegnet opp, også må du flytte hver og en

J2 - men det er bare å markere den.

J1 - jeg er sikkert veldig dårlig på det der

J2 -mhm. Jammen ikke hvis du har den på s og flytter alt opp, da flytter alt med

G2 - det som er litt dumt er at de pilene driver å flytter på seg noen ganger

I - ja..

G2 - hvis du skal lage sånne piler så blir det ikke riktig

I - nei

J2 - du får sånne hakk

G2 - ja

I - Mhm

G2 - det er ikke så godt det tegne verktøyet

I - Hva gjør lærerne deres i forhold til bruk av … altså det å ta notater mens de prater og sånn? … Får dere lov?

G2 - at de tar notater, eller vi?

I - nei dere

G1 - det er noen som ikke liker at vi tar notater

J2 - det er mange som ikke liker det

I - hva sier de a?

G4 - de legger ut powerpointen … altså folk noterer ofte fra powerpointen som lærern bruker, men de legger dem ut, så det er derfor jeg ikke bruker det [OneNote?] mer enn i fjor fordi de har begynt… eller det er noe alle lærere gjør nå.

I - de legger ut?

G4 - ja de legger ut powerpointen de bruker, så da gidder ikke jeg… jeg sekke poenget med å ha det dobbelt opp

I - mhm … er du da flink til å kopiere den powerpointen … inn på din maskin eller?

G4 - jeg har bare lastet den ned på maskinen så har du den. Den ligger der hele året også så

J2 - men da får du den ikke inn på OneNote da

I - laster du de ned i OneNote eller laster du dem…

G4- nei

J2 - det går jo ikke an

I- du kan laste dem inn i OneNote

J1 - det har ikke jeg….

G1 - Det kan jo være smart

I- Man kan kopiere den inn, det er sånn copy paste

J1 - sånn vanlig OneNote?

G1 - er det sånn link?
J2 - Hvordan kommer det opp da. Kommer alle arkene opp etter hverandre da
I - ja. Det gjør de.
J2, så da kan du søke i den PowerPoint'en? Og så kommer det opp fra den teksten?

I, m m det kan sikkert være lurt, der lærte dere noen ting dere

G2, ja det kunne være greit

Alle ler

J2, vi har aldri giddet å laste det ned i OneNote, de PowerPointene fordi de da kommer det ikke opp hvis jeg søker på de

G1, tenker du på å kopiere all tekst eller tenker du eller tenker du på å legge selve filen ned?

J2, kopiere filen inn

G1, blir det ikke bare som en link da?

I, nei. Du åpner den og så kopierer du den

G1, å ja sånn ja

I da har du den liggende på pcn, eh, men det med å ta notater når læreren tegner og forteller holdt jeg på å si det får dere lov til å gjøre? Noen ganger?

J1, stort sett
G2, stort sett

J1, jeg har et fag hvor det ikke er så lett alltid, spansk

I, er ikke det helt greit?

J1, det hender hun blir litt

J2, det er noen lærere som er så vanskelig til å legge opp til å ta notater. For det blir så å så starter de på nytt igjen og så starter de på nytt igjen. Det er så uoversiktlig

I, lite organisert?

J1, ja

G4, jeg vet ikke jeg tror ikke læreren tenker så mye på det. Tror ikke de tenker på i det hele tatt egentlig at det legger opp for sånn nei det er sikkert ikke så veldig mange ikke så mange som jeg har merket. De legger ikke opp for å ta notater

J1, nei nei

G3,. De bruker sine gamle ja, nei jeg vet ikke

I, lite gjennomtenkt på det

J2, det er mange som fra før av, jeg mener når de bruker PowerPoint så er det jo lagt opp til det. Så kan man liksom ta overskriftene på PowerPoint'en

G4, ja

J2, og så i spansk er det sånn jeg vet ikke at man får benyttet det, vi har en spansk lærer som ikke kan så godt norsk heller

J1, ja

J2, ja hun klarer ikke helt å, ja vi får jo ny snart nå.

I, når du tar, når du bruker OneNote til å ta notater, henter dere informasjon fra nettet også da?

Eleven, ja ja

I, sånn type på inn for å

G4, for å gå litt mer inn i dybden og sånn noen ganger ja.

I, ordbegreper og.

G4, ja begreper ja

J2, ja

I m m ja, siste jeg tenkte jeg skulle spørre dere om det var har pc bruk og OneNote bruk endret noe i måten dere lærer ting på?

G4, ja

J2, Ja

I, hvordan er da neste spørsmål

G4, Tar mye mer notater

G#, ja jeg synes at lærerene har blitt mindre sentral de siste årene. At Pcn liksom gjør at, jeg vet ikke hvordan jeg skal si det.

J1, at læreren etter hvert

G3, ja ja

J1, jo dypere du kommer ned i fag så blir pcn mer og mer

G3, ja det er jo sånn at læreren blir mer en samarbeidspartner enn liksom en leder da hvis du skjønner hva jeg mener.

I, m m

G4, ja

I, istedenfor at læreren sier at nå skal du gjøre oppgave 16, 17, 18 liksom

G4, ja

I, så mer enn sånn lærer

G4, ja en som kan hjelpe deg til å forstå sammenhenger da det er liksom det som vi trenger læreren til som oftest

I, ja for fakta finner dere?

J1, fakta finner vi, men sammenhengen er noe annet

I m m så mer enn sånn, men føler dere at OneNote eller pc har ført til noe mer samarbeid dere imellom?

G2, nei

I fordi at dere sier noe om at læreren blir en sånn viktig veileder, samarbeidspartner, men dere fungerer dere en til en inn mot læreren eller er dere grupper sammen som, nei dette ble veldig uklart ble det ikke?

Elevene jo og ler

I, ja altså men samarbeider dere noe mer enn dere gjorde før på grunn av pc'ene eller ved hjelp av pc'ene?

G4, det er jo Facebook og Skype og sånn så vi kan kommunisere og finne hverandre med dokumenter og sånn

J2, jeg er faktisk med på it og der har vi en Dropbox og det er veldig bra til samarbeid gjennom hele klassen og sånn da selv om det blir litt sånn tulling, så kommer det opp sånn derre læreren er kul og sånne teite kommentarer som jeg ikke

I, som vi får i dropboxene våre også, men dere samarbeider ikke noe mer enn dere samarbeidet før?

G4, nei eller

I, annerledes eventuelt

G4, hva tenker du på før, altså tenker du på

I, før ungdomsskolen sånn liksom

G4, Samarbeider like mye vil jeg si. Ja, tror ikke det har endret seg så mye

I, nei så pcn endret ikke samarbeidsformen

J2, det er lettere å sende ting da hvis man kan dele opp ting for da er arbeidet mye lettere

G2, ja

J2, ja når det er bare å sende det, og det er liksom ikke sånn

I, ja så dere deler mer? Og dere samarbeider mer i form av

GuG2tt, ja

I, av at dere får, jeg må bare være sikker på at jeg skjønner dere riktig , dere deler det dere finner mer og dere deler arbeidet mer

Elevene, ja m m ja

I, men dere skriver ikke noe mer sammen eller jobber noe tettere sammen på grunn av

J1, nei vi skriver egentlig ikke mer sammen fordi man har

G2, ikke fysisk liksom

J2, ja sitter på hver sin pc og sender ja

G1, m m

J1, det er greit hvis vi har vært syk en dag da er det mye lettere å sende notater og sånn

I, da får dere notatene, men dere skriver og samarbeider ikke mer enn sånn tett

J2, nei det er mer, det er sjelden man drar hjem til noen og gjør lekser

J3, ja

I, ja nei det, men at dere samskriver dokumenter eller jobber tett sammen

G4, det spørs om det er, hvis det er gruppeoppgave eller så kan vi sikkert gjøre det på en eller annen måte, men ikke sånn ellers

I, nei men sånn sett så er det, så har kanskje pc'n ikke forandret, har pc'n forandret elevrollen noe særlig sånn sett

J1, elev?

I, elevrollen, har det blitt noe annerledes å være elev.

G1, nei det vet jeg ikke

I, det er et vanskelig spørsmål

G1, ja

Cecilie, i forhold til ungdomsskolen du sa noe om at dere har blitt mer samarbeidspartnere

G1, ja ja med læreren og sånn m det tror jeg, men jeg tror vel elevrollen er den samme vi skal jo lære , m
I, m ja ingen som har noe å tillegge, Ann er det noe jeg har glemt?

I2, nei jeg bare tenkte at når du sa har pc og OneNote endret noe i måten du lærte på da hadde dere en del ting

G3, m m

I2, har dere noe mer der? For da ble dere litt avbrutt synes jeg har dere noen mer tanker rundt hvordan dere har endret måten dere lærer på ved bruk av pc'n dere kom inn på at læreren var en samarbeidspartneristedenfor at læreren sa hva dere skulle…

G3, ja

I2, har du noe mer å si om det?

G3, ja m jeg tok faktisk noe om pedagogikk men jeg husker ikke m det er jo bare det at jeg vet ikke helt hva jeg skal si, som jeg sa læreren liksom hjelper deg til å forstå sammenhenger mens vi liksom som har all faktakunnskap fremfor oss da vi gjennom pc'n ved wikepedia alt av fakta som vi trenger da, mens ja læreren

I2 , m m

G3, hjelper oss å forstå hele oversikten og bilder liksom.

Is, en ting som kom frem her for dere sier jo at dere lærer OneNote av dere selv og at det kurset ikke var så nødvendig men det kom jo frem ting her dere ikke kunne

J2, jeg tror kurset heller burde vært senere på året etter at vi har liksom fått lært litt selv da

I2, ja

G4, ja det grunnleggende

J2, sånn skriver du en tekstboks liksom.

I2, ja for jeg tenker jo sånn at læring for vi diskuterte jo det mot kunnskap og det å forstå ting og sånn ser dere om det er noe forskjell hvis en lærere står og forteller dere noe og dere tar notater eller om dere bare har en PowerPoint liggende på pc'nsom læreren har skrevet, er det, det er jo litt forskjell der er det ikke?

G4, det er det, jeg synes det er bedre å notere når han snakker da får jeg mer med meg

J1, ja ja det gjør du

I2, men opplever dere at læreren sier nei til det? Fordi han sier han har en PowerPoint dere kan hente eller likeså godt få det?

G4, sier ikke nei men

G3, noen gjør det, men jeg spør om de legger det ut og hvis du gjør det så skriver ikke jeg for jeg får mye mer med meg hvis jeg følger med enn hvis jeg sitter og skriver for da skriver jeg så fort jeg kan og så sitter jeg etterpå og tenker

Is, ja det er jo nyttig for det er en refleksjon rundt læring.

G2, ja jeg vet jeg ikke gidder å lese den da uansett, hvis ikke det er veldig viktig, så da er det slik da

I2, ja da er vi kjempefornøyd vi. Takk for intervjuet!

Appendix 7

9. Notater fra gruppeintervju 2 (I2)

6 elever 3 gutter 3 jenter klasse 2sta
22. september 2010 13:29

I - , vi skal ikke skrive noe navn eller noe vi kommer ikke til å si noe. Husker dere at vi så på timen deres i fjor. Satt og titta i en klasse time, det nikkes. Dette er en påfølging av dette her. hvis noen av dere ikke vil være med på dette kan dere gå nå, hvis dere ikke har lyst til å være med. Ingen vil kunne kjenne igjen at det er dere som har sagt noen ting. Vi skal snakke litt om hva dere har lært og læringssituasjoner og så skal vi snakke litt om hvordan dere bruker OneNote. Vi har satt av en time til dette.

Det første jeg vil at dere gjør er at dere tenker der om på en situasjon der dere har forstått noe nytt. Det behøver ikke være en skolesituasjon tenk litte grann på en situasjon der dere har opplevd at dere har lært noen ting eller forstått noe nytt. Tenk litte grann på hvordan stemningen var og hva var det som gjorde at du lærte noen ting og gjorde du noe spesielt? Hvordan var situasjonen annerledes enn slik det er til vanlig.

Stille rundt bordet noen som vil, som har en ide?

I - Når lært du sist noe nytt
G1 - : lærte noe nytt? Liksom hva ,
I - , ja som forstod noe nytt,
G1 - bortsett fra skolen?
I - ja,
G1 - ler litt hehe jeg vet ikke,
I - ok, i skolesituasjon da?
G1 - i skolesituasjon lærer jeg noe nytt hver dag
I - har du et eksempel på en sånn situasjon?
G1 - en sånn situasjon tenker, kan være grammatikk i fremmedspråk i fremmedspråk for eksempel.
I - ; hvordan var situasjonen da når du lærte ny grammatikk i fremmedspråk, eller skjønte det, hvordan var den situasjonen.
G1 - det var en - helt vanlig, altså jeg vet ikke helt jeg.
I - nei. Noen andre som husker en aha opplevelse dere hadde? Ingen opplevelser i år eller i fjor? Kom igjen en situasjon der du lærte noe nytt forstod noe nytt.
J1 - jeg lærte å slå inn retur på kassa i går.
I - ok hvordan var den situasjonen?
J1 - jeg vet ikke, hva mener du? Ler litt
I - kunne du si noen om hva som skjedde hvorfor lærte du det akkurat da? Flere elever ler litt. Hva var det som fikk deg til å lære det
J1 - eh fordi sjefen hadde vist meg det for fjerde gangen eller noe sånt noe og til slutt så skjønte jeg det.

I - mn, hvordan følte du deg da
J1 - det føltes veldig bra,

I - ; var det greit å få det til?
J1 - ja det var praktisk å kunne kunne det
I - hva var det som fikk deg til å klare det, var det at sjefen din sto over deg
J1 - jeg tror det .
I - henvender seg til en annen elev, Har du en situasjon der du lærte noen ting.
G2 - nikker,
I - behøver ikke være skole
G2 - kanskje første gang jeg kjørte bil
I - første gang du kjørte bil okay.
G2 - jeg klarte å starte bilen clutche å sånn
I - m m hva var det som fikk deg til å lære det?
G2 -Vet ikke helt mamma satt ved siden av meg og sa hvordan jeg skulle gjøre det (mange ler)
Cecilie det var den som lærte deg det, hva var det som gjorde at du ville lære det?
G2 -Egentlig bare at jeg hadde lyst til å lære å kjøre bil
I - mmvar den situasjonen annerledes enn det den er når du lærer noe til vanlig?
G2 -. Nei tror ikke det
I - kan alle sammen sette seg og tenke igjen på en situasjon der dere har lært eller forstått noe nytt?
Alle tenker seg om stille rundt bordet
I - henvender seg til G3 - , kan jeg spørre deg litt nå.
G3 - ja det er greit. Matte - et par formler vi brukte pc til å regne ut. Etter masse slit fikk jeg det til og skjønte hvordan det funka og lærte det da. Siste jeg kan huske da.
I - ; gjennomgikk læreren dette på tavlen først?
G3 - ja, men jeg skjønte ikke bæret av det så jeg brukte en halv time på å skjønne det av meg sjæl så jeg fant frem min egen metode etter hvert.
I - : du sa noe om de hjelpemidler du hadde tilgjengelig
G3 -Pc
I - Pc ja du sa du ikke skjønte det da læreren gjennomgikk det hvordan gjorde du det for å skjønne det selv da?
G3 -, nei prøvde meg fram ble sur da jeg ikke fikk det til . Så jeg bare prøvde igjen til slutt skjønte jeg det, det var bare prøv prøvprøv
I - var det noen andre involvert?
G3 - Nei
I - det var bare deg og pc'n din?
G3 - ja det var bare meg
I - hadde du noen andre hjelpemidler enn pc'n
G3 -nei, så på folk som gjorde det ved siden av meg.
I - så du så på noen som gjorde det ved siden av deg. Læreboka da var den der?
G3 - nei ikke lærebok
I - , hva med deg da, henvender seg til J2 - . I en skolesituasjon?
J2 - Matte eller noen har gått gjennom en regel forrige time så spør man hvorfor det er sånn

I - mm når du sier så spør man, hvorfor det er sånn, hvem spurte du da?

J2 - Læreren

I - : og da hva skjedde da?

J2 -jeg vet ikke jeg så forklarte han det en gang til grundigere liksom og så skjønte jeg det.

I - ja, og da brukte du ikke noe? Var det bare deg og læreren?

J2 - : æa ja på en måte , jeg tror det var oppgave uten pc, bok og penn og sånn

I - mm, hva var det som gjorde at du lærte det denne gangen?

J2 - vI har lært det litt en gang og så lærer vi det grundigere neste gang.

I - så repetisjonen

J2 - ja

I - tilJ3 - , kan jeg få plage deg litt også? Kan du komme på en situasjon der du lærte noe nytt?

J3 - Ja, i går lærte jeg å sette opp regnskap til nå har det vært veldig forvirrende skjønte jeg det først i går.

I - mm kunne du si noe om hvordan var det i klassen da, hva holdt dere på med og hva gjorde dere?

J3 -Vi gjorde jo oppgaver da og så spurte jeg om han kunne forklare det en gang til og så forklarte han det på en annen måte og så forstod jeg det.

I - så hva var det som gjorde at du skjønte det det denne gangen da

J3 -m m det kan være måten han forklarte det på at jeg ikke forstod første måten, men andre

I - ; hadde du hjelpemidler til å forstå i tillegg til læreren?

J3 - ,m m jeg hadde Pc og læreboken.

I - hvordan brukte du pc'n

J3 - Satte opp regnskap i Excel

I - og det var selvforklarende liksom? Eller var det vanskelig å sette opp?

J3 - Nei det spørs om vi skal sette opp fra bunnen av eller om vi får sånne maler. Da skal vi vite hvor man skal trekke fra og hvor man skal plusse til

I - satte du det opp i en mal eller satte du det opp fra bunnen av?

J3 - I en sånn delvis i en mal måtte sette opp formler selv.

I - så da blir malen en form for hjelpemiddel?

Elev 3, ja

I - noen andre som har gode skole eksempel de vil dele med oss, du hadde et så fint praktisk eksempel i sted? Har du et skoleeksempel du vil dele med oss? Henvender seg til J1

J1 - Vi lærte noe greier i politikk og menneskerettigheter, da gjennomgikk læreren det først og så skulle vi skrive noen innleveringsoppgaver til det etterpå og så skulle vi gå på nettet og finne noe mer om det, og da skjønte jeg det.

I - , så hvilke hjelpemidler hadde du tilgjengelig?

J1 - vi jobbet i grupper og så hadde vi pc og lærebok

I - ja, hva gjorde at du lærte mye i den situasjonen der? Hvis du tenker etter hvilke hjelpemidler som lærte deg mest?

J1 - jeg tenker at jeg lærte en del av en annen på gruppen min som kunne ganske mye fra før av, og det å sitte å lette opp informasjon selv

I - , m m og da leter du opp informasjon?

J1 - på nettet

I - , hva med læreboken, bruker du den?

J1 - vi brukte den og men,,,

I - , det var ikke så brukbar der?

J1 - nei den var ikke så brukbar på det feltet

I - , opplevde du at læreren hadde planlagt den situasjonen tror du? At det var en planlagt læringssituasjon? At du skulle jobbe på den spesielle måten eller noe sånn?

J1 - Ja jeg tror det var meningen at han først skulle gå gjennom det og så skulle vi lære på egenhånd etterpå.

I - : synes du det er en måte som funker for deg? At du sier gruppearbeid i denne sammenheng er ok for deg å lære?

J1 - Ja det vil jeg si

I - , spurte jeg deg om en skolesituasjon du; jeg gjorde ikke det? Henvender seg til G2 - jeg fikk en sånt fint annet eksempel vet du.

G2 - jeg tenkte egentlig også på mattefaget - egentlig det samme som den andre eleven med pc og data henvender seg til elev ?

I - ok hva var det som fikk deg til å skjønne det da?

G2 -ble forklart av en annen medelev da forstod jeg det.

I - , hvorfor funket det bedre for deg å bli forklart av en medelev?

G2 -Fordi jeg synes læreren gikk litt fort frem da fikk jeg bedre tid da jeg satt med en annen.

I - er det noe du kjenner litt på også ellers, at det er greit å bli forklart av en medelev?

G2 - Ja

I - : hvorfor er det sånn dere, henvender seg til hele gruppen, du sier at du så på noen andre og at du forstod det, du fikk en på gruppa di til å forklare det og du sier en medelev.

J1 - det er kanskje fordi de har vært i samme situasjon som oss og de vet hvordan det er å ikke forstå det.

J2 - og så likesom læreren kan alt fra før av men eleven har lært det nå nettopp, kanskje lettere å forklare da kanskje?

I - hvordan da tenker du?

J2 - fordi de vet bedre hvordan man letter kan forklare det. Det er lettere å forstå hvordan man lettere lærere hvis man ikke kan det så godt fra før av.

I - Ja er det noe dere opplever alle sammen eller?

Det nikkes

I - , men situasjonen du beskrev, henvender seg til G2 - opplevde du det som planlagt at læreren din hadde planlagt at de elevene som ikke skjønte det først skulle få hjelp av noen andre eller er det noe som bare oppstod fordi?

G2 -, det var noe som bare oppstod

I - , ja hva tenker du rundt det?

G2 -, jeg tenker at det er greit at man kan spørre en annen elev

I - vi har en del hjelpemidler i skolen, jeg tenkte jeg skulle nevne noen, ja så mange jeg kommer på egentlig og vil ha litt tilbakemelding på hva som hjelper dere å forstå ting. Hva har mest betydning når dere skal setter dere inn i noe nytt som fagstoff. Jeg ramser opp her: dere har Lærer andre elever lærebøker OneNote andre nettsteder programmer. Hva hjelper dere best til å lære noen ting?

Stille

J3 -.For meg så er det jo det å lese fagstoffet og så tar jeg notater tror jeg i OneNote -og så er det ofte læreren tar en gjennomgang av det igjen og en utdypning av fagstoffet hvis det er noe som da mangler går jeg ofte på nettet og finner det.

I - du er grundig med andre ord. Ler litt

J3 - ja det er ikke alltid at jeg er så grundig.

G1 - for meg må det være to skiller på informasjon som må være helt forskjellige for det meste boka og læreren fordi de forklarer ting på hver sin måte som blir det samme til slutt da så det er liksom sånn at boka hvis den ikke er dyp nok så hjelper læreren meg

I - mm hva med deg henvender seg til G2 -

G2 - Jeg synes det samme som G1 har sagt det er lærene og lærebok er det beste, sikreste også.

I - ja, hva med deg henvender seg til J2 -

J2 -, egentlig enig i det, det er det som funker best for meg først lese så ta notater og så få utdypning fra læreren etterpå

I - , andre elever, eller nettsteder eller noe sånt noe? Det bruker dere ikke i noe sånn voldsom grad? Eller gjør dere det?

J2 - Vi bruker en del nettsteder, det spørs jo veldig fra fra fag til fag

J3 - ja det er det

I - , matematikk er kanskje et fag der man ikke bruker så mye nettsteder?

J2 -vi har jo sånne løsningsforslag som er lagt på hjemmesiden til boka, så det er veldig bra hvis vi sitter hjemme og ikke klarer å løse det.

I - , hvis dere tenker dere til en situasjon der dere lærte noe nytt da lurte jeg på hvordan brukte dere OneNote i den situasjonen og om dere brukte OneNote? Og hvordan brukte dere hjelpemidler som bøker? I den situasjonen dere tenkte på i sted? Hjalp dere hverandre? Og hjalp læreren dere noe i forhold til det?

I - har du lyst til å starte? Hvordan brukte du OneNote i den situasjonen du skisserte i sted?

J2 - Da brukte jeg ikke OneNote for jeg bruker ikke det i matte egentlig.

I - hvorfor bruker du ikke OneNote i matematikken?

J2 - Fordi det er så kløpete å skrive inn tall og skrive inn regnestykker sånn generelt da.

I - hjelpemidler som bøker da, brukte du det?

J2 - m m ja man brukte jo den til å lese av og se på oppgaven

I - , hva med hverandre, bruker du medelever til å

J2 -ja det veldig godt når du først har fått det forklart av læreren og så snakke med den som sitter ved siden av deg. Da skjønner du det bedre.

I - hjalp læreren med på det at du opplevde at du lærte noen ting?

J2 -ja fordi han forklarer gjerne liksom

I - hva gjør læreren, hvordan hjelper hun eller han til med å få deg til å lære?

J2 -Står og forklarer og viser på tavlen

I - mm hvis dere tenker tilbake til ungdomsskolen så hadde dere en hverdag uten så mye pc bruk hadde dere ikke det?

Elevene jo

I - Hvordan har pc og OneNote gjort noe med hvordan dere lærer? Har den ført til noen endringer pc bruken deres?'

J3 - mye enklere å ta notater da, det går mye fortere .

G2 - jo så er det mye mer oversiktlig enn å ha mange bøker. Kan søke på ord og sånn i OneNote og så er det mye lettere å finne tilbake til det stoffet du har notert for å si det sånn.

G1 - færre ark i sekken og så slipper du problemet at du ikke skjønner hva du har skrevet at du ikke klarer å lese det

I - hehe ja det er praktisk, noen flere? I forhold til bruken

J3 - ikke noe mer i forhold til det som er sagt

I - ; hva med Pc bruk som sådann har det endret måten dere lærer på? Hvis dere ser tilbake til ungdomsskolen og nå?

J2 -at det er litt mer effektivt

I - hvordan da?

J2 -det er lettere å finne tilbake til informasjon

J1 - Skrivedager da slipper å slå opp hver enste ord når man er i tvil om fordi det er sånn stavekontroll og sånn

I - måten dere lærer på har den blitt noe annerledes? Det har skjedd en utvikling fra dere gikk på ungdomsskolen dere har vokst to år i hvert fall

G1 - jeg noterer aldri på One note i hvert fall først fokuserer jeg bare på å se det og forstå det sånn i basic, da noterer jeg aldri og så når jeg får oppgaver så noterer jeg meg mer om det i dybden og sånn

I - tenker på hvordan læreren fungerer i forhold til hvordan det var før dere hadde pc hvis vi ser litt på hvordan dere lærer, hvilke læringsstrategier har dere, vi snakket så vidt om det i starten. Ikke sant dere leser gjennom ting og tar notater og samarbeider med andre hvordan lærer dere dere nye ting nå sett i forhold til hva dere gjorde på ungdomsskolen? Har det skjedd noen endring eller gjør dere det på samme måten fremdeles?

J1 - det er mindre oppgaver, på ungdomsskolen var det veldig mye oppgaver.

I - mm så hva har kommet istedenfor?

J1 - isteden så leser jeg da og så det at jeg klarer å få med meg og skillet ut viktig og uviktig informasjon istedenfor bare å lese

I - mm er det noe som kan skyldes bruk av hjelpemidler på en annen måte eller er det din egen bevissthet rundt hvordan du lærer eller hva er det som har skjedd?

J1 - det er vel bare en rutine at man finner ut etter hvert og øver seg på det.

I - , ja hva med deg da, henvender seg til G3 - lærer du på samme måten nå?

G3 - Ja egentlig lese og gjøre oppgaver mye av det samme egentlig

I - , Samme her henvender seg til andre elever?

J3 - Ja sånn cirka

I - hva slags rolle spiller læreren i den virkeligheten altså pc virkeligheten med pc til hver elev og læring, dere sier at dere hadde mye oppgaver på ungdomsskolen nå har det endret seg littegrann hvordan spiller det inn?

G1 - rekker opp hånden

G1 - Læreren har fått et utrykk som han bruker mye oftere nå

I - og det er?

G1 - lukk igjen pc'n det er vel det eneste

I - det har ikke forandret seg så mye ellers? Har det forandret lærerrollen noen ting synes dere?

G1 - nei det er fortsatt en mann og kvinnesom preiker og vi forstår veldig lite av det og forklarer og forklarer helt til de blir så veldig sure og sier nå må dere gjøre dette selv så lærer vi stoff på en annen måte

J2 - det er kanskje enklere å dele informasjon da som på it's learning vi trenger ikke å ta kopi. Mye bedre enn å dele ut.

J2 - så er vi er ikke så avhengige av å ta notater fra powerpointer fordi de kan sende dem ut etter timen. Så da er det mye mer lett å fokusere på det og faktisk få det inn i hodet enn å sitte og notere

I - men bortsett fra det, sånn distribusjon av informasjon fordi det er enklere ikke sant og det at du slipper å ha papirene i sekken og det at du slipper den dere hva var det jeg skrev her og at dere skriver i OneNote og at notatene deres er søkbare ellers?

G1 - Norsklæreren har begynt å bruke my mer nettsider i undervisningen for å vise oss forskjellige skrifter da kan du si før var det gjort i bokform da

J3 -så er det mye lettere å koble opp faget til ting som er relevant at du kan legge ut artikler og sånn da er det mye lettere å koble fagstoffet opp til noe som faktisk er en sak som foregår nå da

I - mm opplever du at lærerene er flinke til å gjøre det?

J3 - Noen av de

J2 - det varierer også veldig mye fra fag til fag for sånn som i matte er det ikke så relevant å linke opp til dagens nyheter

I - det at dere får mer sånn direkte inn størreinformasjonsflom inn gjør det noe med måten dere lærer på?

f

Stille

J3 - det er viktigere å skille ut det som ikke er viktig da

I - ,I2, noe vi burde spørre om som vi ikke har gjort til nå?

I - , jo unnskyld? Hva bruker dere av funksjoner i OneNote og hva bruker dere ellers, får dere bruke det på prøver og sånn? Skal vi starte med funksjoner

G1 - vi får jo bruke OneNote på de fleste av prøvene bortsett fra kanskje samfunnsfagsprøver store prøver,og historie prøver det har noe med læreren å gjøre . Ler, men den funksjonen jeg tror ingen bruker er opptaksfunksjonen bruker ikke jeg i hvert fall fordi den mikrofonen på pc'n er så dårlig at det går ikke det blir altfor mye skur og støy i lyden så det bruker ikke jeg i hvert fall og det har jeg ikke oppdaget at noen andre bruker heller. Men skriving og notering og piler i forskjellige retninger og linker det sammen det bruker jeg mye av ihvertfall

I - , henvender seg til G3 - , hva med deg?

G3 - ja man kan også lage tabeller og sånne ting så det blir mye mer oversiktlig

G2 - Tegnefunksjonene bruker jeg en del å sette inn sånne grafer og sånn

J2 - jeg synes også sånne tegn i tillegg kan sette inn sånne firkanter rundt viktig ting

J1 - jeg bruker en del sånn at man kan ta bilde av skjermen og så kommer det inn på OneNote og da kommer jo også sånn med dato og hvilke sider du har tatt det fra også det at man kan ta teksten ut av bilder bruker jeg og sånn der at man kan tagge notater sånn viktig til eksamen eller hvis det er noe du lurer på så kan du tagge det som spørsmål enkelt å finne igjen

J1 - jeg bruker det egentlig til åfakta stoff og veldig mye av det som å printe bilde på skjermen.

I - kontroll spørsmål læreren legger ut powerpointer og sånn kopierer og klipper dere de inn i OneNote eller?

J1 - De lagrer jeg bare på pc'n

J2 -, det går jo an å ta noen bilder av den og sånn istedenfor å skrive det inn i OneNote

I - og så sa du noen om fag der du ikke får bruke det til prøver?

G1 - der får vi ikke bruke pc i det hele tatt historie, men det gjelder bare prøver

J1 - i puggefag er det som regel ikke lov.

I - og sånn puttefag det er?

J1 - Puggefag er historie rettslære politikk og menneskerettigheter,

G3 - nesten alle fag bortsett fra norsk kanskje, spansk, fransk

J2 - språkfag får vi av og til lov til å bruke, spansk

J3 -gjerne delt det opp i deler en grammatikk del og en sånn skrive del og da får du bruke det på den andre delen

I - , okay så du får delt det opp i to deler grammatikk og skrivedel og dere får bruke det i?

Alle: skrivedelen

I - , er det mye fag som er puggefag?

Alle: spørs hva du mener?

I - ; Hva er et puggefag fag jeg er litt usikker på det jeg du sa sånn

J1 - det er bare til prøvene at jeg føler det er et puggefag for da skal liksom all informasjon sitte men ellers så er det jo…

G1 - jeg vil si det er alle fagene som har aspektet at man trenger ikke å forstå temaet man må bare kunne det utenat så får man da en veldig god karakter på prøven så det motsatte er kanskje matte hvert fall på del to på prøven der man har hjelpemidler der man egentlig ikke trenger å kunne det der utenat man tenke på forhånd hvordan man skal gå frem og bruke det så det er liksom litt mindre pugge fag enn språkfag

J3 - det er litt forskjell fra læringsstrategier da, det er ikke alle som lærer ved å pugge

I - , m m så da er vi tilbake til den hvordan lærer man igjen så hvordan lærer dere? Hva med deg; henvender seg til en elev

J1 - jeg tror jeg lærer best hvis noen forteller meg om det og dersom læreren har en PowerPoint der kun det viktigste står. Eller hvertfall hvis man skal lære noe nytt fort da , hvis man skal lære noe ordentlig grundig da må man lese mye, det er derfor veldig mye som ikke er så relevant som man bruker tid til å lese

I - , bruker du læreren din eller pc i noen sånn strategisk grep da for å lære mer?

J3 -jeg tar notater av viktige ting

I - hva med deg henvender seg til G 3

G3 - mye av det samme som hun sa Læreren forteller og jeg tar litt notater og sånn

I - flere som har tenkt noe på hvordan dere lærer eventuelt hvordan dere bruker hjelpemidler til å lære dere ting?

G1 - en kan knytte assosiasjoner det jeg har god kjennskap til fra før med et tema da lærer jeg det tema mye fortere mye mer effektivt enn det jeg ville lært om et annet tema som jeg ikke har hørt om og ikke klarer å knytte mot noe jeg kan fra før av

I - , bruker du noe hjelpemidler til å hjelpe deg til å knytte de assosiasjonene dine ?

G1 - nei det blir litt mer spontant, plutselig kommer på en tanke å ja det er sånn det funker på en måte så det er ikke noe som er bestemt på en måte

I - , når dere tar notater og lærer tegner og forklarer?

J2 -, ikke alltid

I - får dere ikke lov i alle fag?

J2 -, det er av og til de sier vi må lukke pc og ikke ta notater

I - , m m følg med her nå sier jeg noe viktig?

Elevene, Ja

I - når dere bruker OneNote til å ta notater henter dere informasjon på nettet samtidig?

G2 -, Jeg gjør ikke det

J1 - ikke samtidig men kanskje etterpå

J3 -, det kommer liksom an på om du skal ha fordypningsoppgave som du skal finn ut ting om selv så finner man informasjon på nettet

I - , hva gjør du da? Hva slags type, hva tenker du på da? Hva slags type informasjon henter du da?

J2 -som når du skal skrive en oppgave om eksamens tema så finner du informasjon om noe på nettet ellers finner du det i boka

I - så det er ingen av dere som henter definisjoner i forhold til det læreren snakker om på nettet

J1 - Jo hvis det er et ord jeg lurer på

J2 - jeg synes det er lettere å bare spørre læreren om det istedenfor å slå det opp mens læreren snakker

I - ,I2 noen du ville spurt

I2 - , jo vi spurten den andre gruppen om de ville bruke dette på eksamen og om noen hadde eksamen i fjor.

I - ja var det noen av dere som hadde eksamen i fjor?

Elevene rister på hodet

I - ingen? Har der brukt OneNote på heldagsprøver?

Elever , det nikkes

I - ja hvordan bruker dere det da?

G1 - siste gang jeg husker det var i norsk heldagsprøver da brukte jeg OneNote til å friske opp sjanger trekkene da blant annet og så var det noe grammatikk

I - mmnoe annet? Der hadde helt sikker heldagsprøver både i norsk og engelsk og til en viss grad også i matematikk i fjor

J3 - ja det er liksom det samme det går i å frisk opp ting

I - er vi ferdige da?

I2 - , er det noe annet dere vil tilføy? Altså noe annet dere vil si når det gjelder bruk av OneNote? Noe dere er spesielt interessert i? Vi snakket vel litt med den andre gruppen om kursing, og hvordan har dere lært de tingene der gjør? Har dere lært det av dere selv? Eller var det kurset vi holdt for dere eller har dere lært det av hverandre?

J1 - det grunnleggende var vel det kurset

G3 -det var litt å prøve seg frem selv

J1 - I starten fikk man veldig mye kunnskap om hva man kunne gjøre og sånn så finner man ut hva som funker det var en fin måte å lære på da

G1 - jeg bruker kanskje sånn fem av tingene funksjonene som ble lært på kursene og det holdt for meg

J1 - i starten var det sånn at vi så hva de andre elevene gjord og lærte av det

I - hvordan samarbeider dere om å dele notater? Deler dere notater?

J2 - Ikke så mye , ,men man gjør det hvis man har sånne samarbeidsoppgaver og skriver forskjellige ting, ,men da er det mer sånn å sende over til hverandre via Skype, msn og Facebook.

I1 - , Hvorfor ikke andre steder, det er fordi det er lettest er det ikke?

Elevene, jo It's learning er så tungvint

J1 - det er så tungvint som kommunikasjonsmiddel

I - m m men deler dere notater i noen særlig grad? Eller skriver dere notater hver for dere?

G2 - skriver hver for meg men kanskje hvis ting går litt fort i en time kan det hende at man trenger da

I - , men dere skriver ikke sånn felles notater for gruppa eller nei`?

J2 - altså når jeg skriver notater så er det mye sånne forkortelser og sånn så jeg forstår det men det er ikke sånn at alle forstår det

J3 - det er sånn at hvis man har vært borte en time så spør jeg om de kan sende meg notatene sine men så er det sånn at jeg skjønner ikke alt som står der fordi man tenker jo på sin egen måte når man tar notater

I - , ja hva er deres forhold til gruppearbeid? Bruker dere, altså bruker dere for det første fungerer gruppearbeid i noe særlig grad og bruker dere noe ikt løsninger der?

J1 - Jeg synes gruppearbeid opp til 4 personer er ganske bra men med en gang det blir over fire så blir det lett mye tull men opp til 4 så er det egentlig greit. Jeg vet ikke jeg, sende ting til hverandre.

I - , da avslutter vi intervjuet, takk for hjelpen

Elevene bare hyggelig!

Appendix 8

10. Survey

Antall svarpersoner: 179

1. Ja/nei-spørsmål	**Prosentsats**
Har du brukt/bruker du OneNote?	
Ja	94,4%
Nei	5%
Ikke besvart	0,6%
2. Flervalgsspørsmål	**Prosentsats**
Omtrent hvor ofte bruker du OneNote til skolearbeid?	
Daglig	68,7%
Flere ganger i uken	13,4%
Ukentlig	7,8%
Sjeldent	5%
Aldri	5%
3. Flervalgsspørsmål	**Prosentsats**
På en skala fra 1-5, i hvor stor grad vil du si OneNote er et nyttig hjelpemiddel i din skolehverdag?	
1 (lite nyttig)	2,2%
2	1,7%
3	5,6%
4	21,8%
5 (svært nyttig)	64,8%
Vet ikke / bruker ikke	3,9%
4. Flervalgsspørsmål	**Prosentsats**
Hvilket program bruker du oftest når du tar notater / gjør skolearbeid?	
Word	17,9%
OneNote	80,4%
Annet program	0,6%
Vet ikke	0,6%
Ikke besvart	0,6%
5. Flervalgsspørsmål	**Prosentsats**
Hvilke funksjoner i OneNote kjenner du til?	
Tegneverktøyet	84,9%
Skjerm- klipp	57%
Skrive ut til OneNote	37,4%
Lydopptak	44,1%
Søkefunksjonen	55,9%
Favoritt merking	40,8%
Sidemalen	41,3%
Ikke besvart	6,7%

6. Flervalgsspørsmål	Prosentsats
På en skala fra 1-5, i hvor stor grad bruker du tegneverktøylinja?	
1 (svært lite)	17,9%
2	15,6%
3	33%
4	18,4%
5 (svært mye)	6,7%
Vet ikke/ bruker ikke	6,7%
Ikke besvart	1,7%
7. Flervalgsspørsmål	**Prosentsats**
På en skala fra 1-5, i hvor stor grad bruker du skjermklippfunksjonen?	
1 (svært lite)	17,9%
2	16,8%
3	22,3%
4	22,9%
Vet ikke/ bruker ikke	19%
Ikke besvart	1,1%
8. Flervalgsspørsmål	**Prosentsats**
På en skala fra 1-5, i hvor stor grad bruker du "skrive ut til OneNote"	
1 (svært lite)	34,6%
2	9,5%
3	9,5%
4	8,4%
5 (svært mye)	2,8%
Vet ikke /bruker ikke	34,1%
Ikke besvart	1,1%
9. Flervalgsspørsmål	**Prosentsats**
På en skala fra 1-5, i hvor stor grad bruker du lydopptak?	
1 (svært lite)	52,5%
2	7,8%
3	3,9%
4	3,9%
5 (svært mye)	0,6%
vet ikke/bruker ikke	30,7%
Ikke besvart	0,6%
10. Flervalgsspørsmål	**Prosentsats**
På en skala fra 1-5, i hvor stor grad bruker du søkefunksjonen?	
1 (svært lite)	33%
2	9,5%
3	16,2%
4	18,4%
5 (svært mye)	5%
Vet ikke / bruker ikke	15,6%
Ikke besvart	2,2%
11. Flervalgsspørsmål	**Prosentsats**
På en skala fra 1-5, i hvor stor grad bruker du favorittmerkingen?	
1 (svært lite)	39,7%

2	12,8%
3	10,1%
4	7,8%
5 (svært mye)	0,6%
Vet ikke / bruker ikke	29,1%

12. Flervalgsspørsmål	**Prosentsats**
På en skala fra 1-5, i hvor stor grad bruker du sidemaler?	
1 (svært lite)	22,3%
2	9,5%
3	12,3%
4	10,1%
5 (svært mye)	12,8%
Vet ikke / bruker ikke	33%

13. Flervalgsspørsmål	**Prosentsats**
På en skala fra 1-5, i hvor stor grad føler du at du trenger mer opplæring i OneNote?	
1 (svært lite)	17,3%
2	21,8%
3	24%
4	20,7%
5 (svært mye)	12,3%
Vet ikke	3,4%
Ikke besvart	0,6%

14. Åpent spørsmål

Er det andre funksjoner i OneNote som du mener er nyttige til skolearbeidet ditt? Presiser i så fall hvilke.

-
-
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-
-
-
-
-
- Jeg synes det er kjempebra at den regner ut mattestykker for deg.
- Bruk av tabell til å forklare begreper.
-
-
-
-
-
-
-
- Det som jeg mener er mest nyttig er vel det at man kan markere det man syns er viktig og lime inn ting veldig enkelt fra andre sider.
-
-
- det at det lagres automatisk gjør at man ikke mister noe stoff når pc'en skrur seg av eller man krysser ut ruten uten vilje.
- Det er veldig bre at det du skriver lagrer seg med en gang. på denne måte slipper du å miste

arbeidet ditt

-
-
- Det er lett å lage skjemaer. kunne gjerne ha lært litt mer om hvordan man lager andre type diagrammer.
-
-
-
-
-
-
- Farger
  Den ekstreme muligheten for katalogisering av arbeid
  Muligheten for å lagre som pdf-fil
- Nei
-
-
-
-
-
-
-
-
-
- nei
-
-
-
-
-
-
-
- Aner ikke
-
- nei :) fornøyd med det jeg bruker til vanlig, mer eller mindre, som er listet opp
- Det at alt er samlet på ett sted, i stedet for å drive å åpne alle mulige dokumenter.
  Det lagres automatisk.
-
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-
- det er nyttig med passordbeskyttelsen sånn at man kan lagre passord til minID og slike ting der.
- Alt egentlig
-
-

- Jeg kommer ikke på noen.
- alt okey? hhøuuh jeg sov >.<
- w00t? >.....<"
- Kopiere tekst fra bilder.
- Nei
- Det er ingen andre funksjoner som jeg synes er spesielt nyttige.
- det at du kan dele inn etter fag og lett flytte deg mellom fagene så du slipper å lete etter de dokumentene du trenger. Også søkemoteoren er veldig grei når du også ahr skrevet ned ord i onenote og kan søke dem opp (som en ordbok).
- At man kan lage forskjellige sectiongroups til forskjellige terminer innenfor fagene, slik at man kan dele faget i første og andre termin, og hvilke skoleår det er. Da blir det ikke så mange notatblokker som er nødvendig for å ha system.
- sections og sidene
- Jeg vet egentlig ikke om så mange funksjoner på onenote. Jeg har ikke lært så mye om det, så jeg bruker det bare som kladdebok.
- At vi slipper å lagre er nyttig.

- neeeei
- At alt blir lagret i et program, alt du skriver finnes i faner.
- jeg bruker sjelden Onenote.
- nei
- halo...jeg bruker ikke OneNote!!!
- skjermutklipp

15. Åpent spørsmål

Har du andre kommentarer knyttet til OneNote?

- Veldig fornøyd med dette programmet. det har hjulpet meg mye! (med å ha orden i sakene)
- Kunne gjerne tenkt meg en bedre gjennomgang av programmet, da jeg egentlig ikke føler jeg skjønner det, og klarer heller finne bedre system i den gamle måten med word.
- Kunne kanskje trengt litt mer opplæring i de andre tingene som lydopptak og sånn, visste ikke at det fantes på OneNote en gang..
- Burde vært lettere å ha automatisk back-up på skolens server. Vi har fått opplæring i hvordan vi skal gjøre det, men jeg har aldri klart å gjøre det selv.
- Nei
- Det tar alt for lang tid å bruke tegneverktøyet hvis en ønsker at det skal se ordentlig ut.
- jeg lærte mer om one knote når norsklæreren min sa alt han kunne på 5 min enn alle andre foredrag om det.
- nei
- Vi burde få opplæring. Vår klasse (1stc) fikk det aldri.
- Veldig bra program. Bruker det nesten hver dag. Det er bra å skrive opp notater der, slik at jeg finner lett fram om jeg evt. trenger å lese stoffet til en prøve.
- onenote er veldig bra. liker det veldig godt. for meg er det det samme som kladdebøker bare på pcen

-
- Vi har ikke fått opplæring i OneNote.
-
- Mulighet for å fastsette språk til notatbøker, så man slipper å endre mellom norsk/nynorsk/engelsk/spansk hver gang man skal skrive i forskjellige fag.
-
-
-
-
-
-
-
-
-
- Hvordan vi kan ta back up, ingen vet hvordan vi gjør det! Vi trenger ikke å vite hvordan vi lager mapper, men hvordna vi sikrer tingene våre!
-
-
-
-
-
- nei
-
-
-
-
-
-
- Nei
-
-
-
-
-
- kommentarer? W00t? >...<
-
-
- Lære hvordan man tar back- up av OneNote på SkyDrive
- I love it
-
- Lære å strukturere notatene på en effekiv måte. ;)
- One note er supert!
- Nei
-
-
-
-
-
- Nei.
-
- Veldig praktisk og overlegent word.
- Bra program :)
-
-
-
-
-
-

- bra
- Kunne dere lagt ut en visning om hvilke funksjoner som finnes, så man kunne lært seg disse?
- Man burde innføre OneNote på barneskolen slik at vi kan lære å bruke det skikkelig på ungdomsskolen i tillegg til videregående skole.
- Sykronisering av Delte Notatbøker fungerer ikke på skolenettverket.
- Fungerer ikke på MAC...
- nei
- Nei.
- oneNote er Veldig bra.
- det er bra, synes det er smart å ha
- Jeg vet ikke hvordan man bruker OneNote. Har ikke fått opplæring i det.
- nei
- Bruker ikke
- Et veldig bra program! Jeg er kjempe glad for at vi kan få bruke det på Sandvika, og jeg har til og

med kjøpt et eget som jeg kan bruke på PCen jeg har hjemme. Meget fornøyd.

-
-
-
-
-
-
-
- elsker det
-
-

Appendix 9

11. Strategi og utviklingssamtale knyttet til prosjektet OneNote med Arne Cecilie og Ann

Bakgrunn for samtalen:

Vi er aktører dette prosjektet og vi ønsker å diskutere erfaringene våre ved gjennomføring av prosjektet. Vi har nå gjennomført et prosjekt der alle elever på vg1 og vg2 har fått Microsoft Office pakken med OneNote. Etter et slikt omfattende prosjekt er det naturlig å se på hva som er resultatet av dette. Hva har vi lært her og hvilken kunnskap har organisasjonen tilegnet seg? Ledelse må anerkjenne og gi verdi til kunnskapen for at den skal kunne forankres i personalet og hos elevene. Sosiale krefter må brukes til å bygge kunnskap, sosiale rom må brukes til å bygge sosiale artefakter (Säljö).

I samtalen ønsker vi å komme inn på følgende:

1. Oppsummering av prosjektet det vi har gjort sånn og sånn, Beskrivelse av it redskapet, hva er utprøvd av dette, (ann) har dere samme oppfatning av hva som er benyttet? Da må vi ta en runde rundt bordet.
2. Hvilke læregrupper er involvert og hvordan har de samarbeidet? (Ann)
3. Arbeidsdeling i ledelsen hvem har hatt ansvaret for hva Hvilke implementeringsstrategier er valgt i prosjektet? (cecilie) – hvilke prosedyrer er tilstede for dette prosjektet (mål, hvem hva hvor)
4. Hvordan har vi festet arbeidet med OneNote inn i skolehverdagen slik at det går inn i rutiner og arbeidsdeling
5. Hva har vi lært her?
6. Hvilke strategier har vi brukt for å dele erfaringer med resten av personalet.
7. Har vi sørget vi for at erfaringene bidrar til utvikling i organisasjonen?
8. Hva gjør vi med den kunnskapen vi har opparbeidet oss etter dette prosjektet.
9. Hvilke erfaringer har vi gjort oss og hvilke strategier ledelsen vil ledelsen legge vekt på for å dele disse erfaringene. Og hvem vil vi dele dette med? Skal det være for spesielt interesserte eller skal alle “tvinges” til å ta dette i bruk?
10. Klarer vi å ivareta erfaringene slik at kunnskapen blir igjen i organisasjonen?

11. Hvordan kan vi festet arbeidet med OneNote inn i skolehverdagen slik at det går inn i rutiner og arbeidsdeling

Appendix 11

12. Taped conversation leadership group

A, Det vi egentlig gjerne godt kunne tenke oss å gjøre nå det er å se hvor er vi hen i verden altså hva har vi gjort og hvilke strategier har vi brukt og hva gjør vi videre fremover i forhold til dette herre OneNote prosjektet. Og så tar vi da dette her opp på bånd var planen og så skal vi ta til å analysere oss selv i denne samtalen inklusive oss og deg hvordan gjør vi dette her og hvordan tenker vi rundt og det er det vi er mest på jakt etter å få til en samtale der vi følger punktene og at det er viktig at vi prater til punkt og at vi ikke lar ting henge i luften og ikke blir forstått.

R, m m

U, m

A, er det noe vi burde ha sagt da, nei jeg tror ikke det er så veldig mye mer vi skulle sagt nei

U, nei det er sånn det skal være, en utviklingsstrategisamtale om prosjektet vårt,

A, m m

R, ja

A, denne må vi jo ha uansett for å lufte hva vi har gjort og hva vi skal videre.

R, ja for all del ja

U, ja, ja så da begynner vi da er det jeg som skal begynne

A, (latter)

R, hm m

U, oppsummering av prosjektet, så da hvis jeg skal fort oppsummere OneNote prosjektet som vi for øvrig har kalt "bedre resultater til eksamen", det kan vi jo ikke bevise at vi har fått men dette her er andre året vi går inn i drift da for første året var det mer et forsøk,

U, Oppsummering vi var i et forsøk med tre skoler også samarbeid med Microsoft og vi hadde en klar strategi for hvordan vi skulle implementere dette for alle elevene. Alle elevene fikk utdelt dette på pc'n sin og så fikk vi diverse kurs da av elevene og elevene fikk kurs fra Knowlegde group da, alle elevene skulle inn i auditoriet og få kurs på det. Med pc ene sine hvor de skulle få sitte og prøve seg litt på pc mens de hadde kurset. Og så hadde vi et kurs for ergonomi med en fysioterapeut som skulle fortelle hvordan man skal

sitte og jobbe med pc'n så man ikke får muskelskader etter hvert . o så hadde vi et kurs i m hva heter det igjen,

A, altså i lærings

U, nei studieteknikk av BI

A studie,

U, ja der vi tok hele gjengen med oss til BI og det er de tre organiserte kursingene som har vært bedrevet med elevene i fjor.

A, siden vi ikke gjentok det i år hvorfor gjorde vi ikke det, hva var grunnen til det?

R, Ja

U, ja dette var prosjektmidler vi hadde fått så pengene til de tre kursene de har vi ikke fått i år som det skulle være mer drift, så i år har vi hatt kursing av elever. Vi hadde opprinnelig tre superbrukere som har blitt utdannet av Microsoft hvorav den ene er utvekslingsstudent i år , så vi har to jenter igjen og de har kurset alle på SSP. Så har jeg ikke kommet til HE , og MK har jo som kjent Mac så de har meldt seg ut ar prosjektet

A de har Mac så de har…

U, ja

A, Ja

U, Og det har vel vært greit nok det at elevene har kurset elevene, i det som de synes er nyttigst for da det er en bevist strategi det altså

R, m m

A, ja var det et valg vi tok som ledelse for jeg husker ikke at det var oppe til diskusjon?

U, nei det var ikke et valg, men sånn er det jo ofte når du går fra prosjekt til

R ja m m

U, ja hva heter det når du går fra prosjekt til drift ja

A, drift

R, ja

U, m m så har du ikke de samme midlene til å videreføre med kursing

A, u m m

U, samtidig som når vi har vært og intervjuet elevene nå så har jo de sagt at de gjerne skulle gjerne ha fått brukt det en stund og så få kursing igjen så vi må jo lage en strategi på hva vi gjør med det.

A, Jeg tenker at en del av min oppfatning, spesielt av det derre første kurset OneNote kurset , (drikker) det ble for , for en del elever så gikk det nok for fort og det var for sånn dere hektisk .

U hva tenker du på da?

R, det i auditoriet?

A, altså det i auditoriet 1 , altså da vi startet 1. året

U, 1- året

A, og jeg tror nok at det å ha det , det å ha elev kurs altså elevkursholdere er en bedre strategi.

U, m m

A, og da kanskje spesifikt hvis det gjør det i den enkelte klasse ,

U, ja, tidkrevende

A, ja det er tidkrevende

U, og ressurskrevende

A, og ressurskrevende men jeg, og det kommer til å gå ut over de elevene så kanskje vi trenger flere sånne superbrukere , elevsuperbrukere

U, eller lærere,

A, eller lærere , ja sånn at vi kan sende dem ut og så bare woff,

R, ja og så er det nok lurt, jeg var tilstede i autdioriet og det var kort og presist, for så vidt,

A, kort og pregnant

R, men det ble ikke mye tid til utprøving

A, det gikk for fort rett og slett for en del av dem og de falt av

U, m m

A, og det er vel kanskje noe med det de sier at de vil ha kurset litt senere de t er vel kanskje noe med å ha først,

U, øvd seg litt først,

A, det å ha gjort unna de enkle greiene altså sånn slikt skriver du en tekst boks som de sa

U , m m ja

R, ja

A, det er greit

U, beskrivelse av it redskapet, har vi gjort det da?

A, Nei

U, hva gjør vi da?

A, ja hva gjør vi med OneNote? Hva gjør vi egentlig?

U, ja

(pause)

A, hvordan ser du OneNote?

U, nei for at det det vi gjør det redskapet så vi har poengtert fordi prosjektet heter bedre resultater til eksamen det er jo nyttigheten av det it redskapet for å innhente informasjon som du har samlet i løpet av et helt år som for mange elever ofte er rotete og vanskelig tilgjengelig med mange notatbøker og så har man det samlet på et sted i notatblokken sin og kan søke da lett opp i det søkefeltet og finne all informasjon som man trenger til eksamen så det er det vil ville vise dem som det viktigste tingene med dette redskapet det er organiseringen å ha en god struktur på hvordan man legger opp fagene fra år til år og hvor lett et er å søke opp resultatene og finne det du trenger når du skal ha prøver oppgaver og da til eksamen da, så det var jo en av poengene å vise ved kurs også

A, fungerer det

R, ja

A, sånn?

U, ja jeg tror det

A, bruker de det sånn er det store spørsmålet?

U, ja jeg

U, jeg tror det

A, for jeg tror til en viss grad

U, ja,

A, altså jeg tror at det fremdeles er ganske mange som , ja eller ikke ganske mange i hvertfall en del elever der ute som ikke benytter det på den måten som er intendert, nå er det jo så klart et valg de gjør , men spørsmålet er om vi kanskje skal kurse dem litt lenger på det også hvis vi virkelig skal få utbytte av det, eller de skal få utbytte av det at det på mange måter kanskje .gå litt lenger

U, ja det kan vi

R, ja senere

U, ja for da har vi

A, m m

U noen andre spørsmål litt lenger

U, hvis vi sier vi har gjort det da så kan vi si hvilke læregrupper som er involvert og hvordan de har samarbeidet , skal vi gå på det?

A, ja

U, ja

U, ja for da,,

A hvilke læregrupper synes du har vært mest involvert i dette?

A, er det noe som slår deg som mer entusiastisk i dette i bruken en andre? Du ser en del andre mennesker den det vi gjør

R, nei jeg kan ikke si det

A, ja

U, hvis vi skal si hvordan vi startet med det da . For vi startet jo første året veldig klart med alle lærere som underviste på vg1 som var involvert i dette her. og det var vel de var på eget kurs som vi holdt. De var på det samme type kurs som elevene fikk og da var de på det kurset som de holdt da var det jo da var det var den gjengen vi inviterte på det og veldig mange som ble entusiastiske og synes det var et flott verktøy og så da var det veldig klart et begrenset antall med lærere og så nå har vi det jo også på vg 1 (mener vg2) og da hadde vi det dere Kick off seansen på Lysaker som var jo der alle lærere som ville var invitert til å komme med .

A, det var igjen en sånn derre valgt kom hvis du vil

U, ja strategi ja

R, m m ja

A, helt klart en sånn frivillighets strategi , kom hvis du vil strategi

U, ja ja

A, ender vi da opp med , altså vi har jo signalisert ganske tydelig at vi at dette er noe vi satser på, men ender vi da opp med en liten gruppe som velger å holde seg utenfor? Helt bevist. Har vi en gruppe som velger å holde seg utenfor? Nå ?

R, Det vet jeg ikke (pause), men det er jo alltid en mulighet for det.

U, altså jeg ville jo ha en strategi på som går først på frivillighet og ønske om å komme og spesielt på et sånt arrangement som det der vi hadde fra Microsoft eh , det var jo allerede noen som reagerte sånn og himlet med øynene når på denne derre rettingen den derre matte rettingen , (latter) fortalte de som sto og så, jeg så ikke det for jeg satt jo med ryggen til det. Men min strategi da hvis jeg skal få si det er frivillighet og entusiasme først og så må vi se hvordan dette fungerer med elever og lærere og så (host) inn og ha en strengere føring i etterkant og si at det her er sånn det er, sånn ønsker vi det på Sandvika. Alle elever skal kunne ta notater for eksempel, altså det er en strategi man kunne hatt da

A, m m

U, At alle elever skal kunne bruke pc’n sin på prøver vi har jo diskutert litte granne rundt det hva vi mener med det.

A, nei for det

R, ja

A, jeg sitter og tenker at vi må på ett eller annet tidspunkt ha en strategi hvor vi sier helt klart hva vi ønsker altså en åpen strategi på hvor vi vil hen med dette her .

U, um m

A, og det jeg vet ikke om vi har sagt så mye om hvor vi vil hen med dette i forhold til lærerene eh enn så lenge

R, nei jeg tror nok du har rett i det så hverfall når det gjelder alle lærerene noen er altså de som har vært med på det, de som er dedikert for den slags type bruk i undervisningen de

A, bruk

R, er jo der

A, u m m

R, men det berører jo ting som em som ligger utenfor altså som er sånne generelle problemstillinger i dette her med da bruken av pc i undervisningen

A, m m

R legg pc' bort steng av og hele den er problematikken der

A, som vi , fordi det er jo en sånn ting som på mange måter blir veldig tydeliggjort med det prosjektet

R, m m

A, sånn som det er nå fordi at vi startet i første klasse og da var det alle førsteklasse lærerene involvert og nå har det kommet opp i andre klasse og plutselig er det en del lærere som ikke har vært så involvert som blir konfrontert med elevenes bruk

R, m m

A, eh kanskje på en måte de egentlig synes er litt vanskelig

R, ja helt åpenbart

A, siden det kommer så mye sånn derre steng og nå får vi ikke lov til å og sånn og det er jo interessant

U m m

R , nei med det vi har gjort er jo et prosjekt og så er vi ute i en skal vi kalle det prøvedrift nå og i år. Så vi har jo ikke sagt at dette her er noe skole x gjør over hele linja. Det er jo den grad av frivillighet som ligger i det , men for elevene tenker jeg at det kan være oppleves som annerledes å få lov til å gjøre noe i noen fag men ikke i alle fag. Og litt avhengig av hvor du er hen, det blir litt ulikt dette her. og det i og med at det er et redskap som tydelig eh er myntet fram mot eksamen også i tillegg til den nytten man har underveis så kan det jo blir litt alvorlig den ulike behandlingen av dette da og oppleves som urettferdig og til dels med rette.

A m m

U m m

A, for det er jo en diskusjon sånn sett

U, ja det er en diskusjon vi må ta på skolen også i hele personalet

A vi må ta etter hvert , men hvis vi tenker litt sånn på arbeidsdeling i ledelsen altså hvem er det egentlig som har hatt ansvaret for hva og hva har vi hatt som implementeringsstrategier . og hva har vi har vi tenkt noe rundt hvilke prosedyrer vi benytter i dette herrre prosjektet når vi bestemmer hvem hva som er målet hvor vi skal gå hen med det og hva vi håper skal være resultatet vi har så vidt vært innom på det tidligere. Har vi noe klar fellesoppfatning av det?

(Pause)

A, kan du som øverste (latter) være den som sier noe om det eller skal vi sette i gang U?

R, nei hei som prosjekt så synes jeg det var veldig klart i forhold til at det var altså å hjelpe eleven i studie arbeidet eh sitt. Sånn både på struktur og det å kunne ha en base med kunnskaper eh som ligger der og som du kan hente ting ut av så sånn sett er det jo et ledd i en studiestrategi. Og klart målretta . eh det må settes altså hvis vi innfører det for hele skolen sier at dette er vår modell så må vi nok grunngi det tidligere . det stiller litt andre krav en til et prosjekt der vi jo prøver det ut nå da.

U, m m

A m m

A, men implementeringen av dette da, det har jo i en stor grad vært din baby U,

U, jada som utviklingsleder så er det jo ganske naturlig synes jeg. Eh jeg har jo vært også prosjektleder for selve prosjektet med St. Halvard og Elvebakken også .

R m m

U , så det er jeg som har hatt ansvar for det da.

A, for da har det veldig stor grad blitt din baby og noe vi andre egentlig ikke bryr oss så veldig mye om

U, det har jeg egentlig ikke tenkt så veldig my på ehm, akkurat dette prosjektet her er litt spesielt synes jeg fordi at det er et verktøy som vi har latt elevene få anledning til å bruke og som de har embraced da så mye i de grader og som lever sitt eget liv, og det er litt spennende akkurat det. Det er ganske uavhengig av læreren , elevenes bruk. Det eneste som er avhengig av læreren er om læreren sier slå av pc'n eller ikke

A, m m

U, og det er , det ville vært et problem uansett hva det var de brukte , men det er kanskje noe vi må bevist jobbe for, holdningene til lærerene, når man skal la elevene få lov til å så. Så dette her bare meisler frem at vi må gjøre ennå mer i lærerpersonalet for å hm tenke på bevist hvorfor vi velger hva vi gjør i klasserommet

A, m m

U, når vi , eller hvis vi velger å holde et foredrag hvorfor skal elevene få ta notater eller hvorfor skal de ikke få ta notater hvilket bevist valg har vi gjort på det og så må vi rett og slett kanskje stole mer på elevene , noen lærere også og skille kanskje mellom enkelte elever. Noen som kan og noen som ikke kan og så blir det masse spørsmål som kommer opp. På bruk

A, ja så ser, ja så du tenker bevist forskjellsbehandling i forhold til

U, ja hvis det er det er det læreren er redd for. Jeg er veldig lite tilhenger å straffe hele klassen bare fordi et par stykker ikke får det til kanskje

A, ja

U, ja

A, ja fordi jeg sitter litt med den følelsen at dette her har i veldig stor grad vært noe du har brent for og som på mange måter har rullet og godt ved siden av, det har vært investert ganske mye penger i det, men uten at jeg synes at folk egentlig har i ledelsen at vi som ledelse egentlig har tatt tak i og vært flinke til å følge opp. Det har vært veldig altså hvis U hadde blitt langtidssykemeldt så hadde det prosjektet der rullet stille til et aldri så lite stopp altså. Det sitter jeg litt med følelsen at vi har vært veldig sårbare sånn sett. vi har ikke i ledelsen vært så flinke til å dele de arbeids oppgavene som ligger der . eh og det er litt mulig at vi ikke trenger å gjøre det, men vi er ganske sårbare

U, ja men kanskje Arne skal si noe da

R, det er jo går jo også på U i forhold til hvor mye vil hun dele dette med oss. Hvor mye forventer hun av ledelsen. Og det er vel noe der føler jeg at det ligger litt. Så at det jo det er hennes baby, men det har ikke vært noe problematisk å dele, hun har vært veldig åpen på det. Jeg merker at det å involvere oss så komme med noen tydelige føringer på dette her det har det ikke vært så mye av , men eh det må jo komme hvis vi sier at over hele fjøla så kan vi jo snakke om en it strategi på litt utvida måte også og på sikt

U, mm

R, men da ville jo nettopp det derre bli et veldig sentralt spørsmål om å ta notater og det er jo der vi er

A, men dette her handler jo også om hvilken pedagogisk profil vi skal ha ikke sant altså hvordan legger vi opp pedagogisk arbeid. Og hvordan vi snakker med lærerene og hvorfor vi velger de pedagogiske metodene vi gjør. Men det ligger jo også ganske det legger jo ganske sterke føringer på hvilket pedagogisk arbeid som skal gjøres her på huset og hvordan det skal gjøres. Jeg merker at jeg blir litt sånn djevelens advokat her

R, ja m en det er jo noe av poenget og vi skal forhold oss til og

A, og det er jo noe med er vi villige til å ta den kostnaden og ønsker vi å gjøre det, men det er jo sånn for fremtidige spørsmål akkurat det der , men

R, men men eh jeg ser det i en strategisk sammenheng så ser jeg det som er gjort nå som veldig klokt i forhold til å få med eh en bølge av entusiasme eh fortrinnsvis blant lærerene da

A, ja um

U ja

R, det at du appellerer positivt til deltakelse i dette her de ser glede og nytt de som ikke nødvendigvis bare de som har motiver for utvikling men også litt breiere favne det breiere og så får du en

U, ja um

R og så får du en base av elever som etterspør dette her, det er jo de som

U, um ja

R skal bruke det her det er jo ikke et undervisningsverktøy

A, nei det er det jo ikke

R, det er et arbeidsverktøy for elevene og derfor så er det viktig at det er de som da eh skaper det nødvendige grunnlag for etterspørsel .

A, um m

R, sånn at vi da som skole og som lærere ikke kan si nei

U, uh m

A, ja fordi for det er på mange måter

R for sånn oppfatter jeg den strategien vi har nå

A, um , ja

U, um ja

R, og da er det en strategi som ikke er styrt da som ikke er top down greie men heller det motsatte.

U, um

A, ja

R, men som selvfølgelig da med en usynlig hånd, ja for å si U s da i det her da. (latter)
(latter)
A, jeg tenker da litt sånn i forhold til dette her med å kanskje å spre entusiasmen så hadde kanskje vært enklere hvis vi alle sammen her "i anførselstegn" her hadde vært frelst her at vi alle hadde vært å dette er kjempe gøy og det bruker vi i det daglige og at det var synlig men det er en sånn annen greie, men
U, ikke nødvendigvis men jeg kan godt si at hvis vi snakker strategi og sånn her at ledermøtene vår har liten rom for sånne interessante
R, hm med mer
U , temaer (ler) vi blir ofte veldig sånn spisse på sånne små ting vi går rundt bordet med
A, som ordensreglement
U, og når vi er ferdige tenker jeg å, det skulle vi ha snakket om, vi skulle ha snakket om det og men eh når du eh ikke i og med at du sa vi ikke snakker så mye om det her så er det mange ting som man gjør som er spennende som man ikke får tid til å . men det er jo poenget at vi skal ta det i vår gruppe da
R, ja det er jo pedagogisk ledergruppe
A, ja da bør vi kanskje
R, det er opp til oss å bruke det forumet da først
A, og der bør vi kanskje bli litt flinkere til å løfte oss litt høyere tenker jeg, eh
U, hvor er vi nå er vi på fire
A, vi har satt opp samarbeid egentlig i lærergruppene. Har de samarbeidet noe særlig, det var jo en av grunnene til at vi brakte inn prosjektet egentlig. Det var det at vi så en samarbeidslærings funksjon her ikke sant. Den der serveren som aldri kommer eh diskusjonen. Men har vi fått til noe samarbeid lærerene i mellom på dette.
U, ikke på dette tror jeg , nei vi er ikke på det trinnet i det hele tatt for som du sier vi venter på vi kan ikke det uten den serveren og det er en sånn fylkeskommunal vegg vi har møtt. Og det er ikke vi , vi er ikke de eneste , for de prosjektet vi var og hørte på på Lysaker , Hunsund. , de har leid en server
A, har de det?
U, ja for de får heller ikke lov av bærum kommune skjønner du . Vi er ikke de første i verden som opplever dette . så sånn er det.
A, for det er jo interessant sånn sett, hvor mye betaler de for den
U, nei det vet jeg ikke men det er sånn når vi var i Sverige i går og de hadde problemer med IT så tenkte jeg ho ho ja , men hva skal vi si

(Latter)
U, det er universalt
R, ja det kan vi ta etterpå (latter), ja
A, men da begynner vi egentlig da, hvordan har vi festet arbeidet med OneNote i skolehverdagen eh da for lærerene i stor grad går det inn i rutiner og går det inn i arbeidsdelingen har vi laget noen strukturer for dette skal leve videre fremover eller er vi fremdeles i ferd med å gjøre det vi er fremdeles på prosjektstadiet?
U, jeg synes at vi fremdeles, hvis du deler prosjektet i to og sier at elevene lever i en verden her og lærerene her så er vi fortsatt i elevverden og så tenker jeg at nå er vi i ferd med å ta skrittet opp i lærerverden så hvis du spør hva har vi gjort så må jeg si at det første skrittet, vi skulle hatt det kick offet i fjor som vi ikke fikk til så det tok vi da i år rett før høstferien så det har vi gjort for å fordele det. Og jeg var overrasket og glad for at det var så mange forskjellige som kom på det . fra så mange forskjellige miljø økonomilærere , kroppsøvingslærere, realister filologer det var en fin blanding av lærere som var der. Så det har vi gjort , vi har ikke gjort så mye mer enn det, men så har vi jo andre planer for eksempel at vi har fått deler av planleggingsdagen nå til at hun Eva kommer og tar det for hele personalet så det er en sånn plan
A, så svaret blir på mange måter at vi er i ferd med å gå på
R vi er i en prosess
U, å gå på lærere
A, vi er i en prosess
R, vi var i et prosjekt og nå er vi i en prosess
U, ja
A, ja ja jo, men allikevel jeg er litt treig jeg så jeg var liksom at jeg vil oppsummere det helt sånn
R, ja ja
U, m m
A, altså svaret på det spørsmålet blir på mange måter vi har ikke festet det foreløpig i organisasjonen
R, nei
A, nei
A, vi har festet det hos elevene
R, det tror jeg man godt kan si
A, ja

U, hos elevene har vi
A, og så har vi festet det hos de lærerene som ville ha brukt det uansett fordi de er entusiastiske sånn sett
R, ja
A, ja , men det hvis vi kan trekke noen konklusjoner på hva vi har lært så langt, hva har vi lært av dette prosjektet?
Stillhet
U, jeg har i alle fall lært at det er veldig tidkrevende prosess og at man må være veldig på sånne prosjekt hele tiden og så må man ha langsiktige planer og så må man eh hm ha noen sånne milepæler som man må vurdere etter hvert som man har kommet da , men
A, ja har vi hatt noen langsiktige planer? Altså vi sier jo selv at vi er i en prosess og at vi har satt i gang altså i første året
U, ja vi har det
A, og er i gang med annet året nå, men hvis vi skal ha langsiktige planer, innebærer ikke det at vi har tatt noen beslutninger eller
U, vi har jo det vi har jo det
A, at vi skal fortsette med dette her
R, ja
U, ja vi har jo det
U, ja vi har jo tatt den beslutningen
A, ja jeg bare spør jeg nå jeg er vanskelig
R, ja vi har jo valgt å satse på OneNote , det har vi vært veldig klare på
A, um m
R eh og hva målet med bruken av OneNote er det er jo forholdsvis klar den også , men men når vi har, vi har ikke satt en sånn milepelsplan eh sånn i forhold til neste år 2011 2012. så skal alle bruke dette her , at det skal være helt åpen til å ta notater på pc det skal være åpent tilgjengelig for notatføring i alle fag for eksempel noe sånt har vi jo ikke sagt
A, men hva har vi
A, nei har vi egentlig kommet så langt at vi har kommet så langt at vi sier at dette skal vi kjøre inn i første klasse neste år
U, ja ja det har vi sagt, vi har sagt at vi skal gå over til at det er det vi gjør
A, ja
U, um m

A, hvor lenge gjør vi det, har vi tenkt noe på det også?
U, ja det gjør vi til tidenes morgen!
A, nei altså det latter
R, nei vi har ikke det men vi har eh vi har tenkt , nei det er jo det med at når vi nå har vært i prosjekt og det nå er under utprøving på en noe bredere basis så er det jo dette med at ting blir til også mens vi holder på. Jeg ser plutselig så må vi ha en server here, eh ikke fult så plutselig da men allikevel eh og så får vi opp den prinsipiell diskusjonen om dette med bruken av pc. Og stenging og så videre. Og det hvor mange har vi med på dette laget vil også være avgjørende for hvor raskt vi kan implementere det. Ellr for hvor raskt det kan være klokt å gå fram i dette her
A hm ja
R, for dett her er som jeg tror jeg sa i stad det er veldig nødvendig at vi får at alle er med sånn at i løpet av dettte år så må vi komme fram til at her er vi og her ønsker vi å være
U, um ja
R, vi ønsker å legge frem en felles mal for alle for det ville være det eneste rettferdige og riktige i forhold til elevenes nytte og bruk av dette her.
A, vi har gjort noen valg som medfører at vi ekskluderer noen elever f, eksempel vi har valgt å innføre mac på mk da mister de muligheten til OneNote
R, ja
A, så vi har kanskje gjort noen sånne valg som går litt på tvers av den biten da. har vi tenkt noe sånn strategisk i forhold til det?
R, nei det har vi vel ikke gjort da den problemstillingen dukket opp var det vel snakk om finnes det mulig løsning på dette her.
U, um um
A, um det var det det husker jeg
U, det er jo lovt det
R, ja det var jo den biten som skulle på plass da. Så det er ikke noe ekskludering av Mk, men at den fulle konsekvens av Mac valget
A, ja for de skulle jo fordi det var jo
U, de har jo ekskludert seg litt selv der da
A, nei det er jo ikke det at vi har ekskludert dem men det var jo mer et valg læreren har gjort i forhold til ønske om hvilket programvare de skulle ha
U, um um ja
R ja men det er jo vi som har sagt at ok, det er greit med Mac

A, ja det er vi so har sagt det, der er vi som har sagt det er greit men
A, det er vi som er ansvarlige for det, så det skal vi jo leve med men sånn andre erfaringer vi har gjort da
U, jeg sitter her og tenker veldig at det jeg kan sammenligne litte granne med å det når vi startet med it's learning i fylkeskommunen og hvor smart det var å gjøre det på det tidspunktet der for da fikk du alle lærerene inn til å bruke datamaskiner hvor de ikke hadde gjort det ellers ikke sant og sånn at det var et veldig smart trekk og jeg tenker at det er jo sånn her og at dette her er like smart fordi å bruke OneNote notatblokken viser det seg at det er så mange flere tilleggsmoduler som kan puttes inn der og som gir dem en sånn kjempefordel når de har eksamen og når de har muntlig eksamen og når du har prøver så jeg ser at vi har kommet en god vei foran mange andre skoler der også rett og slett altså. Så jeg tror det var et kjempesmart trekk og jeg tror at nå er vi klare til å sette i gang litt flere strategier når det gjelder å utnytte det. Blant annet det der å filme når man retter. Det er mange ting der som vi kan gå inn og jobbe fremover med og vi jeg er veldig klar på at når det gjelder bruk av ikt så skal vi ikke tvinge alle til å gjøre bruk av alt samtidig at noen skal teste ut en del ting først og ha klare bruksanvisninger på det , sånn gjør du det sånn gjør du det og sånn før alle skal inn og gjøre det så.
A, um m
U så det og der tror jeg vi er veldig nå egentlig og så er det veldig entusiasme på skolen synes jeg at jeg så når vi var på den kick offen også at det er en entusiasme for å prøve ut nye ting her og så det synes jeg vi har lykkes godt med på Sandvika
A, du sa noe om det der å være på. Altså kostnadene ved å sette i gang et sånt prosjekt, det med å være veldig på for å drive det. Har det , har vi lært noe av det? Er det noen konklusjoner vi kan trekke av det? Prosjektet har jo vært veldig på på de lærene som har deltatt.
U, ja da jada, for det har jo ikke vært så vanskelig å få de lærerene som har vært med å sett nytteverdien av det for elevene. Det har ikke vært så vanskelige altså , det har vært takknemlig med dette prosjektet her synes jeg.
R, m m
U, det er veldig få som sier nei dette kan jeg ikke bruke , det har jeg ikke hørt en gang altså
A, jeg tror ingen har sagt det
U, nei nei
A, og det er jo egentlig litt overraskende

U, ja oppsiktsvekkende egentlig

A, ja for du opplever ikke dette , det er jo alltid en eller annen som sier at det var jo mye bedre under krigen.

U, ja og første kurset var det noen som sa uh um at det var, men etterpå så var det ikke , det er spiselig for lærerene for det er jo det å ta notater da, alle vil jo det at elevene skal ta notater ,

R, ja ja ja

A, alle gullkornene vi kommer med

U, ja

A, det er jo sånn

R m

A men har vi tenkt noe rundt de strategiene vi har rundt det å dele det , den første gruppen som satte i gang, vg 1 lærerene

U m m

A, har vi tenkt noe rundt hvordan vi bruker dem til å dele erfaringene de har gjort. Burde vi ha gjort det? Har vi gjort det?

U, vi har ikke gjort det, vi har ikke noe strategi på det nei, og burde vi ha gjort det ja

R, du snakka i stad om at vi burde ha flere superbrukere altså blant lærerne det er vel noe der, men ja i dette så ligger det også det at når du får med deg en del lærere så kan jo de fungere som litt som instruktører overfor de andre når vi fordeler du dette her breiere

U, u m ja ja

R, så det ligger her, men vi har ikke tydeliggjort noe spesielt ansvar eller kjørt noe sånt

U nei

R, så det er jo spørsmålet neste år, men skal det da formaliseres i form av superbrukere eller hva det vet ikke jeg noe om .

U, ja for det er jo ressurskrevende men jeg kunne tenke meg at vi tenkte litt strategi nå før det personalseminaret vårt jeg. Når vis skal få hun eva bra til å komme. For da kunne jeg tenke meg at hun holder noe innlegg og så kunne jeg tenke meg at vi setter grupper av lærere sammen hvor det er noen vg1 lærere fra i fjor i hver gruppe

R, um

U, og så tar vi en økt som heter hva kunne du tenke deg å bruke av det du har sett her, og hvilken erfaring har de som hadde elever i fjor med ellevernes bruk av dette

R um m

A m m

U og så kunne vi hatt litt samtaler rundt det og så kunne hun fortsatt litt og hun kunne godt rundt og så kunne vi gjort det sånn.

R, m m

A, jeg tror det kunne vært lurt for jeg tror vi trenger å samtale litt rundt det.

Samtale slutt.