

# Digital Literacy in Upper Secondary School - What Do Students Use Their Laptops for During Teacher Instruction?

*Marte Blikstad-Balas*

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PEER REVIEWED ARTICLE

**Marte Blikstad-Balas**

Ph.D. Candidate

Department of Education and School Research, Faculty of Education  
University of Oslo, Norway

marteblikstad-balas@ils.uio.no

## English abstract

The present study uses video recordings and qualitative interviews to examine the digital literacy practices of Norwegian students who have a personal laptop for school use. It uses the dichotomy between dominant school texts and vernacular out-of-school texts to examine the new school literacy practices. Findings indicate that the teachers' use of visual technologies such as Power Point presentations in whole-class settings generates a variety of individual digital literacy practices among the students.

**Keywords:** Digital literacy, student literacy practices, Internet in school.

## Introduction

In most societies, schools are responsible for the teaching and development of literacy skills. Different studies of literacy have highlighted the importance of investigating how literacies differ across contexts, and there is extensive research on literacy in and outside of schools (Scribner and Cole 1981; Heath 1983; Barton and Hamilton 1998; Jones 2000; Pitt 2000; Gee 2007). These studies all emphasize a dichotomy between the literacies that are formalized, standardized, institutionalized and dominant, such as most school literacies, and the literacies that are personal, informal and vernacular (Freire and Macedo 1987; Street 1993; Street 2003; Gee 2004; Barton 2007). School literacy is commonly based on canonical texts, which has led to school literacy being criticized because it requires distinct literacy practices based on academic ways of thinking and the use of academic language (Gee 2004). However, the introduction of personal laptops with Internet access in the classroom has weakened the boundary between personal and school literacies, and constitutes a new kind of literacy context worth investigating further.

The aim of the present study is to contribute to the understanding of literacy practices across domains, in particular the vernacular practices permeating school contexts that are mediated by classroom Internet access. Hence, the article also addresses the use of ICT, and especially the Internet, in educational settings. It also explores how school literacy might be changing due to the introduction of personal computers (laptops) for all upper secondary school students in Oslo. In this context the article investigates how the vernacular literacies gain terrain within the school paradigm, by examining which literacy practices students engage in while the teachers in different subjects are giving digital presentations, and whether these literacies are dominant or vernacular. This is an important issue, because it addresses what kind of contributions to the classroom practices the laptops might be providing. Students engage in a range of literacy practices mediated by laptops outside of school, and now they have a laptop they can use inside school as well – but there is little systematic research about exactly how these laptops are integrated in the school discourse. Norway is the first country in Europe to introduce a curriculum specifying digital skills as one of five basic skills across subjects, which makes it interesting to study these issues in a Norwegian context.

As mentioned above, in Norwegian schools there is extensive computer and Internet use, especially at the upper secondary school level (Hatlevik 2009). Norwegian children are also used to having Internet access, both at home and at school. Indeed, Norway is in the lead with regard to Internet access in the OECD countries (Kjærnsli 2007). Furthermore, in Norway's largest city and capital, Oslo, all 14533 students (numbers for the school year 2010/2011) in the three years of upper secondary school (ages 16-19) now have access to a laptop provided by the school. The extent to which these laptops are used as an integral part of the students' education, however, varies from school to school, and from teacher to teacher. The present study explores the literacy practices of 18 to 19 year-old students in the subjects religion and ethics, Norwegian and history. The study follows four students during classes for a period of three weeks in their senior school year, after which they can continue on to higher education. At this point it would be reasonable to expect instances of the literacy practices the students have acquired through their thirteen years of schooling. I have used New Literacy Studies (NLS) perspectives on literacy (Street 1993; Street 2003; Barton 2007), to investigate how these students engage in literacy events and literacy practices in their daily school lives.

## School literacy in Norwegian classrooms

In Norwegian schools there is no fixed canon of texts, and the curriculum gives teachers ample latitude in the choice of what to read. Nevertheless, it is well established that textbooks play a dominant role in determining text choice in the classrooms (Imsen 2004; Skjelbred, Solstad et al. 2005; Skjelbred and Aamotsbakken 2010). This textbook dominance might be challenged by the explicit focus on ICT in the curriculum, the extensive use of Learning Management Systems (LMS) (Håland 2007; Hatlevik 2009) and broad access to the Internet in Norwegian schools (Frønes, Narvhus et al. 2011).

The National Curriculum in primary and secondary education (the Knowledge Promotion) emphasizes the importance of ICT in schools. Digital competences are supposed to be integrated in the teaching activities in all subjects at all levels as basic skills, and as mentioned above, most students have access to the Internet in school as well as at home (Hatlevik 2009). Among students at upper secondary school level, 71% access the Internet on an average day, either at school or at home (Vaage 2010). In general, upper secondary school students spend their online time on (in decreasing order of importance) reading news, sending and reading e-mails, using social networks such as Facebook or MySpace, searching for facts and background information, using bank services or buying products, looking at advertisements, watching movies, TV or video clips, searching for information about happenings, playing games or other entertainment activities or to listening to the radio (Vaage 2010). This means that the Internet text practices typical of this age group do not have an explicit educational purpose. On the contrary, most of these practices are associated with entertainment of some kind. Furthermore, international studies suggest that even though the population's access to the Internet is close to a hundred percent (like it is in Norway), it is still rare to find Internet use integrated into meaningful learning activities (Cuban 2001; Madden, Ford et al. 2005). How one can address literacy in and outside of defined learning contexts is addressed in the following section.

## Theoretical perspectives and dichotomies of literacy

The current concept of digital literacy was introduced by Paul Gilster (1997). The term has many possible meanings (see for instance Bawden 2008), and it can be difficult to distinguish it from other literacy terms such as media literacy, computer literacy, Internet literacy and so on. As emphasized by Gilster, digital literacy is much more and much wider than mastering technical skills (Gilster 1997), and Colin Lankshear and Michele Knobel (2008) have attempted to provide an overall definition of digital literacy as “a shorthand for the myriad social practices and conceptions of engaging in meaning making mediated by texts that are produced, received, distributed, exchanged, etc., via digital codification” (Lankshear and Knobel 2008). This is an attempt to ground digital literacies within the scholarship of NLS, in which literacy is considered a social practice rather than a universal skill. This definition relies on Brian Street's definition of literacy as “a shorthand for the social practices and conceptions of reading and writing” (Street 1984). Since NLS' perspectives on literacy are central in the presented study, it is natural to also use Lankshear and Knobel's definition of digital literacy.

Within the framework of NLS it is assumed that literacy is a critical social practice that is constructed in everyday interactions across local contexts. Two terms are essential in this connection; literacy event and literacy practice. I will in the following use the term *literacy event* as defined by David Barton, who frames *literacy events* as “all sorts of occasions in everyday life where the written word

has a role” (Barton 2007). In these, the role of the written word can vary, which implies that pictures, films, commercials, hypertexts and artwork can also be the basis of a literacy event. Next, when Brian Street started to use the term *literacy practice*, it was as a prolongation of the term literacy event (Street 1995). There are many social practices in general, and we might see literacy practices as a specific kind of social practice, involving written language (Barton 2007). Moreover, literacy practices can be regarded as general ways of using literacy in different contexts. Street (1995) emphasizes that the term refers to behavior as well as the social and cultural conceptualizations that give meaning to the uses of reading and/or writing – which is also how I use to the term. To sum up, social and cultural attitudes and notions of literacy and the way people use literacy are part of literacy practices. Thus, literacy practices might include a social regulation of texts with regard to who has access to given texts and who can produce them (Barton and Hamilton 1998).

Texts, which form the basis of any literacy event or practice, gain value depending on who their author is, and on the power relations involved, that is to say the persons or institutions that require the text to be read. The possibility of generating and maintaining such a textual hegemony is not evenly distributed, and it is therefore essential to consider power relations while exploring literacy. This will often generate a dichotomy of literacies, like the distinction between “domesticating” or “empowering” uses of literacy (Freire and Macedo 1987); the distinction between “constrained literacies” or “creative literacies” (Barton 2007); the difference between the vernacular and specialist varieties of language (Gee 2004); or the notion of “dominant” and “vernacular” literacies (Street 1993). What these classifications all try to describe is a difference between the literacies that are determined and regulated by others – schools for instance – and those literacies that are the result of individual choice.

My main argument for the use of Street’s dichotomy between dominant and vernacular literacies when doing educational research inside the school system is that the school domain is associated with the dominant categories of literacy. It is precisely school texts that are the most common examples of dominant literacies. Furthermore, the texts used in schools often come from a textbook, and are often full of assignments and questions for the students (Kress 2003). Schools also use their own varieties of academic language (Gee 2004), and the purpose of reading in school is for the sake of learning (Barton 2007). Indeed, the way we talk about texts in a classroom is different from other talk. As often as not the classroom discourse follows a structure where teachers get to ask a question for which they already have an answer (Mehan 1979), very often an answer that comes from a book, which is not a common pattern outside school.

There are perils involved in using dichotomies like the one presented here, that is to say if they are used in a dialectical manner and implicate a set of false choices. Clarke (2006) argues that there is an inclination within the educational community to dichotomise, and a tendency to ignore the interconnectedness of these dichotomous categories. He also finds that many privilege one category while denigrating the other. In the presented study, the dichotomy between vernacular literacies and dominant literacies needs to be understood as complementary and fundamentally interrelated, not as an oppositional taxonomy. One category should not be presented as better than the other, since different learning goals require different practices. Therefore, one’s literacy practices will always draw on texts from both the vernacular and the dominant domains. Furthermore, situations might arise where it will be impossible to distinguish between the two categories. The Internet per se cannot be either dominant or vernacular, neither can textbooks nor any other texts. However, texts can be defined as part of school during class, and can become texts of the dominant category when for instance the teacher makes them part of school practices. This means that the categories

dominant and vernacular illustrate how practices mainly associated with different domains can be complementary and interrelational in the daily literacy school practices.

## Methods and context

The data for the present study was collected in January 2011, at a popular upper secondary school in Oslo. The school's entrance requirements are high; consequently students at this school have above average grades. The data comprises video recordings, a collection of artifacts from the classroom (such as textbooks, teachers' PowerPoints, students' notes, assignments, etc.) and qualitative interviews with students. Four students were recorded during 16 lessons in the subjects history (4 lessons), Norwegian (8 lessons) and religion and ethics (4 lessons) during a period of three weeks and were chosen with help from their teachers. This purposive sample was based on gender (two boys and two girls) and location in the classroom (so that the cameras would be spread in the front, middle and back of the room). Teachers were encouraged to suggest student respondents that together would be somewhat representative for the varied working methods of the class, and that had a record of low absence in their subjects. All students and teachers were informed in writing that the project was about reading texts and what kind of role texts play in school subjects. Students and teachers who appear in the film gave their written consent to participate. The interviewed students are called Stine, Andreas, Hedda and Thomas. I have also changed the names of their teachers.

In this article the focus of analysis is literacy practices connected to the teachers' use of digital presentations. All student activity was recorded using a small head mounted camera, similar to a head lamp. This provides a clear record of what each student spent his or her time doing during each lesson, what texts they read, how often they engaged in different literacy events and what characterized the different subjects in this class. The concept of literacy practices implies, as discussed above, feelings and attitudes that cannot be observed or documented directly by a video camera. Still pictures of predominant literacy events from the recordings were therefore combined with textual artifacts as a basis for interviewing the four students in pairs.

The interference and effect of video cameras in the classroom is well discussed (Speer and Hutchby 2003; Munthe 2005; Heath, Hindmarsh et al. 2010), and will not be discussed further here. Instead, I refer to Heath, Hindmarsh et al. (2010) who throughout their various studies of a diverse range of settings and activities, always found that the camera is "made at home" within a short time, and that there hardly is any empirical evidence suggesting the supposed camera effect continues beyond the initiation of recording. Neither do I in this study have any data suggesting that the camera altered student or teacher behavior. The students were aware of the cameras, and occasionally commented on the fact that they were being recorded, but most of the time it was not a topic. Last but not least, the student interviews confirm that the video recorded activities are typical.

Collecting artifacts from the classroom has become increasingly popular (Clare and Aschbacher 2001; Stecher, Wood et al. 2005; Matsumura, Slater et al. 2006). By textual *artifacts* I refer to physical objects used or constructed in the classroom, for example tests, textbooks, homework, the teacher's digital presentations, maps, messages on a LMS and so on. A potential weakness in collecting artifacts for research purposes is that the artifacts per se give no information about how they have been used. This problem is addressed during the interviews, by using still pictures of predominant literacy events in combination with textual artifacts to stimulate students' descriptions of their daily school literacy practices. The still pictures of typical activities were chosen using time as a criterion;

hence the pictures are representations of the activities that were most common for each student in each lesson. The recordings are coded using software called Video Graph, which gives a systematic indication of how much time each student spent on different activities. Based on that, I have chosen pictures that clearly show the student activity in question. In the first part of the interviews I used pictures from history lessons, as these provide good examples of the practice of digital presentations by the teacher. In the second part of the interview the use of vernacular texts across subjects is addressed, and pictures across subjects are used.

The semi-structured interviews were conducted in pairs. Stine and Andreas were interviewed together, as were Hedda and Thomas. The first interview, with Stine and Andreas, lasted for 50 minutes, while the interview with Hedda and Thomas went on for 33 minutes. Both interviews were conducted on the school campus a week after collecting the last video recordings. The interviews started by asking the students to comment on specific laminated A5 pictures, which were extracted from the recordings. The pictures were marked with the subject, date and student's name, and were organized by subject. Each student commented on his or her own pictures and explained what they were doing in each picture. While looking at pictures from one specific subject, the students were also showed the textual artifacts from the recorded lessons and asked to comment on both form and content. Towards the end of the interview the students were encouraged to talk about some pictures showing students using the Internet for entertainment while the teacher was giving a digital presentation. These last pictures were gathered across subjects, and were not marked with the subject, date or student names. I interviewed the students in Norwegian, transcribed the interviews and had them translated into English.

## Data analysis

In the recorded lessons the teachers tended to take the role that Reedy (2008) describes as “the teacher as the presenter of information” while using digital presentations. Teaching sequences using digital support were a frequent activity in the 16 recorded lessons, and in four of the lessons it was the only activity performed by the teacher. In addition to being showed to students, and commented upon in class, the presentations were also made available for the students in the school's LMS. The presentations were all in Microsoft Word or PowerPoint format. The text was mostly organized in the form of bullet points using key words and short phrases instead of continuous text. Occasionally there could also be a picture or graphic representation. The content of the presentations varied across subjects. They were primarily presentational and informational, with occasional questions or assignments for the students.

As all the recorded history lessons consist exclusively of the teacher giving digital presentations, pictures from these lessons were used as a starting point when discussing literacy practices revolving around the teacher presentations. Thus the first interview extracts presented, in which the students describe and elaborate on their activities, are from this subject. Literacy practices regarding teacher presentations across subject are addressed in the last section of results, in which the students talk about how they decide whether to pay attention to the teacher or to do other activities in general, regardless of the subject. Neither the subject itself, nor the teacher, seem to predict the students' activities, but whether they have Internet access or not plays a major role, as we will see in the following section.

## Literacy practices during teacher presentations

During the interviews, the students were shown pictures of themselves in the different subjects, and asked to comment on these and explain what is going on in each picture and what they are doing. The pictures are, as mentioned, extracted from each student's video recordings in class, and they all show activities that the student spent a significant amount of time on. As a consequence, all of the comments the students have regarding these pictures, concern activities that were frequent for them during the three weeks of the data collection. The following sequences from interviews are all based on six pictures from each of the students in history lessons.

Andreas is the first student to comment on his pictures. In all the pictures his laptop is turned on, and in all the pictures the teacher is presenting a text using the digital Smart Board. Andreas has opened Facebook on his screen in two of the pictures (from two different lessons), a blog in one picture, the news in two pictures (from different lessons), and the LMS in one picture. Andreas is sitting in the first or second row (there are six rows, and there are about 27 students in class), and which desk he chooses in each lesson varies. In all the pictures his history textbook is on his desk, it is however closed at all times. In one picture the book closest to him is actually from another subject. I ask Andreas to give me his first impression of the pictures:

Andreas:	well there is very little related to the lesson, at least. I see that in one picture I don't have my history book, but another book (laughter)
(...)	
Andreas:	there isn't anything relevant to the subject at all really – well I am on the LMS once (laughter)
Interviewer:	I didn't try to find pictures where you are doing other things, so that it is - - - I have looked through your recordings and then I have chosen pictures of what you do the most during the period /.../
Andreas:	it's very accurate, I believe. Yes. (looks through) There is the Lady Gaga page again, I am on Facebook, and here I am on - - well some other page that I have been linked to or something like that - - - and here on Facebook again - - and then I'm on the LMS
Interviewer:	why do you go on the LMS, what can you find there?
Andreas:	I think it's just because in the end you get tired of just being on Facebook, so you just check for news on the LMS or something, that's why I'm there, but yeah - -
Interviewer:	yes?
Andreas:	and then I am on VG [newspaper] in the next picture - - - yes

Stine's pictures are similar to Andreas' in the sense that she also sits in the second or first row, and the teacher is presenting something on the Smart Board in all the pictures. The history textbook is present in one of the pictures (closed), and in four of the pictures other books are on her desk (closed). Stine has turned her laptop on in five of the six pictures, and in the sixth picture the computer is completely absent. Four of the pictures of the laptop screen show that she is using

Microsoft Word and in one picture she is on Wikipedia. When Stine is asked to comment on the pictures she says the following:

Stine:	I see that I either take notes or - - - find content or look at Håvard (history teacher) teach - - -yes
Interviewer:	but do you often take notes during history lessons?
Stine:	yes, or, at least I try, it happens that I'm not able to, or don't have the energy to do it, or well, you know

Hedda's pictures show that she is sitting in the second or third row during the recorded history lessons. She has her laptop turned on in all pictures, but in one picture she has almost closed her laptop. In all her pictures we can see the teacher giving a digital presentation. In two of the pictures Hedda's screen shows that she is playing a game, in one she is writing in Word and in two pictures she is on an Internet page of historical maps, the same as the teacher showed them. Hedda starts to laugh when she looks through her pictures:

Interviewer:	you are laughing at your pictures, Hedda, do you think they are funny?
Hedda:	yes, yes - - maybe I shouldn't be playing games during history lessons but
(...)	
Hedda:	(keeps looking through the pictures) these are the maps or something like that, yes, okay. Yes, I am looking at maps. I am writing something, I think I might be writing what he [the teacher] said will be on the test
Interviewer:	right?
Hedda:	yes. That is pretty much the only thing I write down in history
(...)	
Hedda:	and then I am paying attention, since I took down the laptop, I think - - yes, and then I am looking at more maps - - and then I play games – and I play more games

The fourth respondent 'Thomas' pictures show that he chooses to sit in the back row, and from this location it is hard to see what the teacher is doing and what is written on the Smart Board. In four of the pictures Thomas has his laptop turned on, once he is on Skype chat, and three times he is on sites where you can play online games. In the two remaining pictures, both from the same day, he is drawing. I ask him what he thinks about his pictures:



Thomas:	(looks through the pictures) here we have games, drawing, drawing, games - -
Interviewer:	I think that's a game too
Thomas:	(laughter) games, chat, and yes
Interviewer:	what do you think of the pictures?
Thomas:	I don't know, it is what I usually do during history lessons
Interviewer:	it is?
Thomas:	mm

Even though there are similarities between these students' responses and actions, a distinction can be drawn between Stine's and the others' literacy practices at this point. While Stine says she tries to pay attention and take notes, which is the dominant and intended literacy practice associated with digital presentations, the other three students engage mostly in vernacular literacy events. Their digital literacy practices revolve around using the Internet as a text base where they can find alternative texts. During none of the 16 lessons are any of the students in class denied the use of their laptops or encouraged to close or put them away. In other words - they have access to the Internet at all times. All in all, the pictures show that the digital teacher presentations are a good opportunity for the students to use the computer to engage in vernacular practices. The topic in the last part of the interview is this search for other types of texts, texts that are not embedded in the dominant intended educational setting.

### Vernacular literacy practices in the school domain

In the last part of the interviews, I show the students seven pictures in which the different teachers in different subjects are giving digital presentations while the students are using their laptops to engage in vernacular literacy practices. I ask Hedda and Thomas how they determine how they will use their computers during each lesson:

Thomas:	it depends on how we feel, or how I feel at least
Interviewer:	yes?
Hedda:	it depends entirely on what I feel like doing. - - If we want to take notes we take notes during class, we pay attention, for instance in history and philosophy [optional subject]. I always take notes, because it's so hard, but if we feel like not paying attention during Norwegian we are on VG [news] or Facebook or whatever

I ask Hedda to elaborate on this:

Hedda:	I don't know, it's just so natural to log onto Facebook, it's like a habit, in a way. If you go on the Internet you just go to Facebook, kind of, you just check if something has happened
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Andreas says that what he does the most at school, regardless of the subject, is to be on Internet pages that are not related to the subject content. When asked to discuss what they use the computer

for at school, the answers from the four students were quite consistent – they use it for *whatever they want*, which is usually something other than taking notes and paying attention. When I ask how they know that they can go online during class, Andreas answers, “When the teacher is teaching”, and Stine agrees. This is consistent with the video recordings, where the teachers’ instruction in whole-class generates room for a variety of vernacular digital practices. Andreas and Stine do not agree with there being a distinction between the use of computers at school and at home:

Interviewer:	(...) I wonder if you could tell me what you use the computer for at school, in general?
Stine:	mostly for messing around
Andreas:	yes. It’s really the same as I do when I am at home
Stine:	yes
Andreas:	usually, it is just that it doesn’t contain sound and sometimes I watch like You Tube clips without sound, but - yes

What Andreas and Stine refer to as *messing around* turns out to be complex and diverse literacy practices that take place during the teacher presentations. What each student looks for and chooses to spend time on reading on the Internet varies, but there are also distinctive patterns. For instance, the video recordings reveal that Andreas usually spends his time on the Internet reading news, on social networking sites, or reading blogs about celebrities and fashion. In comparison, Hedda and Thomas spend most of their time during teacher presentations playing online games. All four of them also access Facebook from time to time. Finally, Stine tries to take notes during history, but if she is tired she might end up choosing other activities.

All in all, there is a clear trend across subjects, evident in both the recordings and the interviews, that vernacular activities such as games, reading newspapers, checking out what is new on Facebook, and reading blogs, are what the students for the most part use their laptops for during teacher presentations. Indeed, an overwhelming majority of the texts the students choose to spend time on during teacher presentations are not what could be categorized as dominant or integrated in the school domain in any way. On the contrary, these texts have entertainment as the main goal. The students are quite aware of this, and they all laugh when they see pictures of themselves engaging in vernacular literacy events at school. On several occasions they express that they should be doing something else, that they should not be playing games, checking out Facebook or reading online newspapers. Even though the students are aware that their textual practices differ from the intended practices, they do not offer any important reasons for avoiding these alternative practices. In fact, there are no immediate consequences for opting out of the dominant literacy practices associated with digital teacher presentations. The clear tendency in this data is that no sanctions are applied against vernacular digital activity. This means that the students have a genuine possibility to engage in other texts than those chosen by the teachers during digital teaching sequences.

### **Lack of simultaneity concerning the presentations**

From the findings above, one might assume that the digital teacher presentations play a minor role in the student’s literacy practices at school in general. The respondents all explicitly state that they do not pay attention to most of these presentations, sometimes they do not even try to. They all have their computers on during most of the presentations, and they actively go online and search

for other texts on a regular basis. The recordings show that this is not the case only for the four respondents chosen to record their own activities, but for the class as a whole. Even though there are some variations in the extent to which the students pay attention to the teacher's presentation in class, they might later engage in literacy events involving these presentations. If and when they do so, it is without the teacher. This is possible because the teachers always publish their presentations on the school's LMS. Indeed, Hedda seems to feel that it is unimportant whether the students pay attention or not during the actual teacher presentations in class:

Hedda:	it's like, he [the teacher] puts out everything he says in key words, on the Internet, so there is really no point in even being there
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At his point one could ask whether it is possible to say that the teacher is in fact making the *presentation* public, because the verbal comments used by the teacher to supplement the written words and images in the presentation are lost if the students during classes do not listen to it, remember it or write it down. What they get access to is not a movie or an audio file combined with text, it is solely the textual artifact used by the teacher:

Andreas:	and sometimes it's just – some only have key words so when you are going to see through and check what they did during class you don't really understand what they did
Stine:	no, you don't understand anything of what they have tried to say

As we can see from the quotes above, this distinction between the presentations in and out of context is brought up in the interviews in which Stine and Andreas discuss the nature of the presentations across subjects.

## Discussion

The interviews with Stine, Andreas, Thomas and Hedda presented above all indicate that Internet practices are not well integrated in an educational setting. In other words, this study provides yet another example of Internet practices not being properly incorporated in the curricula or used coherently for educational purposes (Cuban 2001; Kozma 2003; Zhao and Frank 2003; Madden, Ford et al. 2005; Livingstone 2009). This is despite the fact that many consider the Internet to have the potential to change education dramatically, and despite the rapid growth of Internet access in schools. In other words, mere access to information in itself does not necessarily lead to improved education or to fundamental change (Schofield 2006; Law, Pelgrum et al. 2008).

Indeed, the most striking finding in the empirical material drawn on in this article is the lack of simultaneity between the literacy practices of the teacher and practices of the students during the digital presentations. When the teacher is actually giving the presentation, the students are busy doing other things; first and foremost being entertained on the Internet. When the students occasionally feel the need to relate to the presentations, it is always because they need specific information for an assignment or preparing for a test. Furthermore, because they usually did not pay attention during the presentation in the first place, the text in the presentation does not always make sense when they find it on the LMS. This means that the teacher and the students cannot be

said to share common literacy practices based on the teacher's digital presentation, since teachers and students do not operate on the same time scale. When the teacher is presenting, the students are not engaging with the presentation, and when and if the students eventually engage, the teacher's part in the presentation is over. Students and teachers rarely participate simultaneously in literacy events based on digital teacher presentations. Furthermore, if the students choose not to use the digital presentation at all, they justify this by searching for information either on the web or in their textbooks.

These digital teacher presentations are dominant in two ways: they represent an institutionalized version of literacy, connected to the school domain, and they are also dominant regarding the amount of time spent on them in class. Ironically, this dominant literacy practice that is initiated and maintained by the teacher, generates a variety of vernacular literacy practices among the students. During the presentations, they can use the Internet in any way they want, and usually this means the same way as they use it at home or anywhere else. Hence, Internet access is adding to a weakening of boundaries between the dominant literacies of school and the vernacular, personal literacies of the students.

If the students are allowed to choose the basis of most of their literacy events, even at school, there is a risk that they will lack experience with certain types of texts and practices. The literacy practices connected to the dominant school area are based on academic texts, a text type that requires certain ways of reading and certain ways of engaging with the text. If students at upper secondary level can choose not to pay attention to any teaching sequences based on digital support, these students might not be prepared to engage in similar literacy events in college where this kind of presentation is used extensively (Ivanic 2009).

## Conclusion

The study presented in this article is a small qualitative study, but the findings are consistent with those of large international studies. These show that the link between the dominant school practices and the "new" ICT technology in the educational setting is, at best, a tenuous one. I argue that this might be because many schools assume that the technology will fit into school practices, and thus use the computer as a supplement to the "regular" instruction. However, the students have their own vernacular practices concerning the use of the same technology, which they bring to school and wherever they go. This means that if schools fail to create the need of relevant educational Internet-based practices, the students will continue to use the Internet mainly for their personal vernacular practices, even at school. This also implies that the students might lack experiences with academic literacy practices that they will encounter in higher education and elsewhere – and then they will need to learn how to engage in literacy practices revolving around teaching sequences using digital support.

Due to the rapid technological changes taking place in classrooms, it is important that the question of students' literacy practices connected to the school domain is researched further. For instance, there are uncertainties about the extent to which the textbook is still the most frequent text in both teacher and students' school practices. There is no doubt that there are textbooks to be found in the classrooms, but it is worth exploring how much they are used and for what purposes. The present study draws on empirical data where the textbook is nearly absent in the students' literacy practices.

It is timely to question how the students in the empirical material spend their time, and what kind of learning outcome they might be getting, not in school in general, nor in each class, but during the sessions of teacher instruction. One possible response to evidence of the kind presented here is to follow up the students' lack of intended behavior by reducing their possibilities to engage in activities that are clearly competing with the teachers' dominant and intended practice. However, this response does not address the challenge educators are faced with when it comes to integrating ICT in educational settings. Also, one might ask whether the fact that new technologies are being used, has a causal relation to the "new" literacies we see here. Are these vernacular activities a completely new phenomenon? Are the teachers' digital presentations a new practice? Or are they old practices of well known school routines, where the teacher is presenting information and students are engaging in whatever else they have available? When asked what they did during teacher instruction before they had laptops, one of the students said he used to spend his time drawing. This is not news. What might be new is the amount and kind of entertainment now available within the classroom walls, and we need more research about how these new possibilities are being met by students and teachers. There is also a need for research and knowledge about how to successfully and continuously integrate the Internet in a variety of educational setting – and thus prevent it from becoming just a technological "add on" with no explicit educational goals.

It goes without saying that banning Internet activity will not contribute to developing students' literacy skills. What might need more explicit attention, is that neither will allowing unlimited Internet access without any guidance or clear educational purpose.

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