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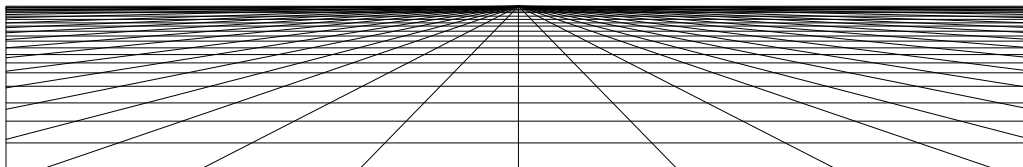
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Promoting Knowledge?

A Study of Young People's Perceived and Actual Internet Practices

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Synopsis

Much of the existing literature on the Internet centres on a binary classification of haves and have-nots. I have chosen instead to focus on the difference in Internet use and skills and a more broadly interpreted notion of digital competence among young people, seen in relation to the new Norwegian educational reform; *The Knowledge Promotion*.

This thesis examines the role of the Internet from young people's perspective. My aim was to examine the concept of digital competence through studying young people's ways of using the Internet, and to discuss whether the educational reform "The Knowledge Promotion" is deterministic in assuming young people's usage in one certain way.

I have chosen to use Science and Technology in Society studies (STS) as my main theoretical approach, but my literature will also consist of material from other disciplines such as sociology, anthropology, media studies and educational studies. My empirical research consists of qualitative interviews and also practical tests conducted with thirteen young people.

Keywords

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Chapter 1

Introduction, Objectives and Approach:

The Knowledge Society

A knowledge society should be able to integrate all its members and to promote new forms of solidarity involving both present and future generations. Nobody should be excluded from knowledge societies, where knowledge is a public good, available to each and every individual.

UNESCO 2005

Concepts like "post-industrial society", "information society" and "knowledge society" are all characterizations representing qualities within contemporary societies. While labels such as "industrial society" often call forth an image of assembly lines and Fordism, the concept "information society" and "knowledge society" tend to suggest an image of advanced technology, especially within the field of ICTs. The increasing importance of knowledge is associated with a political and economic shift in focus from mass-production to qualifications and competence. Thus the importance of education has been stressed. This development spiral containing competence, knowledge and technology creates a strong competition between countries, individuals and groups that all are in desperate need of knowledge and competence. (Frønes 2002)

Peter Drucker introduced the term *knowledge society* and *knowledge economy* in the late sixties (Drucker 1969). Drucker predicted that the major changes in society would be brought about by information. He argued that knowledge would become the central, key resource. According to him, what he called *knowledge workers* would become the largest working group in the pending knowledge society. The defining characteristic of these knowledge workers would be their level of formal education. Thus educational development would be the central concern of a knowledge society. A consequence of this pursuit of knowledge is that new social divides could potentially be created.

The concept knowledge society refers to a high-tech society where knowledge is the keyword present in all areas of society. The concept *information society* usually refers to one dimension of the knowledge society: the development of information technology (Frønes 2002: 13). The emergence of the knowledge society, building on modern information and communication technologies, also shapes the global economy. Knowledge has always been a factor of production, and a driver of economic and social development. Earlier economies depended, for example, on knowledge about farming, construction and manufacturing. The knowledge societies encompass a much broader social, ethical and political dimension then the industrial societies ever did (Frønes 2002: 14).

In 1996 Manuel Castells argued that the world was entering an information age in which digital information technology would provide the material basis for the expansion of what he named; *the networking form of organization*. (1996: 468)

According to Castells, the Internet's integration of print, oral and audiovisual modalities into a single system promises an impact on society comparable to that of the alphabet. (Castells 2000)

Concepts such as the *Information Society* or the *Knowledge Society* have been criticized of being exceedingly deterministic. "To foresee the emergence of a new kind of society is to exaggerate the novelty of ICTs' social consequences and to neglect familiar factors and processes such as the market system, which continues to be highly significant" (Lyon 1988: viii). Whether these labels are deterministic or not, the term knowledge society has proved influential in discussions of society's existing demand for knowledge.

1.1 <u>The Internet: Past, Present and Future</u>

The Internet is often looked upon as a relatively new technology. But the origin of the Internet goes all the way back to 1969, when it was developed for the US military. The Internet served as a system that would have no centre so that communication could be maintained even through a nuclear attack (Burnett and Marshall 2003: 11). The network structure of the Internet was built from these origins, but later advanced into a research network connected to university research (Burnett and Marshall 2003: 12). Only since 1993, after graphical interfaces became available and the scope of commercial activity broadened, did use of the Internet expand outside these circles. (Castells 2000)

From then on, the use of the Internet spread more rapidly and even today more and more people are becoming aware of the Internet as a useful tool. Today governments, academics, teachers and bureaucrats all use the Internet for accessing, exchanging and diffusing information. The extensive distribution of this technology has contributed to a vision of a *Virtual society* and a prospect for a technologically transformed mode of social interaction (Woolgar, 2002: 3). Today, in the developed parts of world, the Internet is available to almost everyone, whether at school, in public libraries, community centres or Internet cafés and there are great expectations connected to the use of the Internet and computer mediated communication.

Public debates often reflect the view that encouraging the development of Internet technology will improve accessibility of information thus promoting a more future-oriented society. Much of the rhetoric used in technology related debates today, could be described as a kind of *soft-technological determinism*, which is a more subtle version of the *hard technological deterministic view* (Smith and Marx 1994). According to a soft- deterministic view, technology has a strong impact on social development and it is difficult to control this evolution (Smith and Marx 1994). This view presents a somehow more nuanced version of the relationship between technology and society than the harder forms of technological determinism, which state that technology, is an autonomous force with a direct impact on society (Smith and Marx 1994). Technological determinism in itself entails expectations that the introduction and use of new information- and communication technology contributes to development, social change and increased participation in society.

Much of the literature concerning the Internet and other ICTs reveals this sort of optimistic anticipation, believing that the use of the Internet will contribute positively to social change. These utopian views points to the Internet as a way to contribute to increased participation and inclusion of excluded groups, giving them a possibility for involvement through the Internet. This optimistic position illustrates the belief in a revolutionary potential of new information- and communication technologies (Henwood et al. 2000). The opposite view argues that access to the Internet will rather contribute to a continuation and reinforcement of the exclusion of marginalized groups and people in the developing world. This view is apparent in much of the literature related to the global "digital divide" within the information society (Adam and Green 1998).

1.2 ICTs and Educational Policy

Many countries around the world are investing in Information- and Communication Technologies (ICTs) to improve and update the education they provide for future generations. Several researchers also promote research on use of ICTs inside the classrooms for many different educational purposes (Søby 2003, Frønes 2002, Hargittai 2002, Livingstone 2002, Castells 2000). Although no effects of Internet and computer usage have been documented on learning achievements (Livingstone 2002), there still exists a belief in digital tools as an investment in the future. Experience shows that well-trained and motivated teachers can improve the learning *conditions* with ICTs, and can acquire ICT skills together with their students (Søby

2003).

Both European and American studies suggest that the development of digital competence[1] will become the driving forces in future economic, social and cultural growth (Søby 2003). In an information society, knowledge is the most important resource and learning could be seen as one of most important economic processes; digital competence could therefore be seen as a key concept in the new knowledge-driven educational system. This means that policy makers have a large responsibility for insuring that today's youth develop adequate competencies. In order to meet the demands of the Knowledge Society, a transformation of the educational system seems to be required.

1.3 <u>Problem formulation</u>

The development of computer technology is characterized by accelerating pace, as new models and functions are introduced faster and faster, while older ones become outdated in no time at all. Through media and advertising, the computer is presented as a device that promotes personal freedom, self- realization and the freedom to communicate with anyone, anywhere. In this way the necessity of access to the Internet is emphasized. Despite the alleged benefits of computers and Internet technology, not everyone is equally suited to handle this state of continuous change in technology updates, and certainly not everyone desires to (Wyatt et al. 2002). Consequently, the promised potential of the latest technology is not equally available

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[1] Digital competence as a concept will be thoroughly discussed in Chapter 3.

or desirable to all.

The Internet and computers are often talked about as modern toys for the younger generation. Media have described how young people are living most of their lives online, communicating with friends, making new friends in online communities, or doing most of their socializing in cyberspace. In this thesis I will study how the Internet is used among young people between the ages eighteen to twenty, and I will especially like to investigate how they use the Internet for more than just communication. Being the so-called *digital generation* how do they navigate around all the information that exists online?

I will also ask whether the Internet and its effects may be more complex than is evident from the media coverage. Is individual freedom getting lost under the pressure to conform? I will argue that this is contingent on several factors, many of which are culturally and socially grounded. Thus I wish to show that using the Internet affects people differently, and that the appropriation process of the Internet is not driven by necessity alone, but is also grounded by factors such as taste, personality, identity-communication and social pressures. Furthermore, I will seek to show that information- and communication technologies do not just provide advantages to young people; they also place huge social demands on them.

ICTs are no longer unfamiliar; they are in many ways incorporated in everyday life.

Several Norwegian official reports[2] have underlined the importance of the educational system playing a creative and innovative role in adjusting to the digital development in the knowledge society. Children and young people seem curious and interested in using and learning about new technologies and new media. Most of them have grown up with these technologies as an ordinary part of their lives. The development of digital competence would seem vital for young people, enabling them to fully participate in the knowledge society. Incorporating ICTs in the educational system could also prevent the development of local digital divides.

Internet technology is not just about entertainment and communication. As will become evident in later chapters, using the Internet as a knowledge tool requires skills that enable users to take advantage of the full potential of the technology. Failure to acknowledge the symbolic and cultural qualities of Internet technology, automatically excludes some core dynamics of technological development, especially social interaction. Therefore, what is needed is a qualitative framework that takes into consideration young people's viewpoint of the technology. By using in-depth interviews and practical tests we will be able to see just how young people use the Internet to find knowledge and information. This will be viewed in light of the introduction of a new reform in the Norwegian educational system*; The Knowledge Promotion.*

STS (Science and Technology Studies) theory offers some potential angles in this

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[2] Kvalitetsutvalgets rapport, NoU 16:2003 "I første rekke"
Problemnotat om digital kompetanse, "Digital kompetanse: fra 4. basisferdigehet til digital dannelse", ITU juni 2003

respect. One of its foundations is the idea that technologies include more than merely the artefacts themselves; their significance can be seen to exceed the physical nature and technical functions. The properties of technology can neither be reduced to be mere simple functions serving a given purpose. The STS-theory challenges the deterministic approaches apparent in much of the political discourses by bringing technology together through a social and cultural process in society, and by that emphasizing the meaning of context.

My research questions will therefore be as follows:

- **To what extent and in what ways do young people use the Internet in general, and more specifically as a tool for obtaining knowledge?**

    o Is it still possible to detect a digital divide among young people in Norway today?

    o Will the introduction of digital tools in the education in itself promote learning, and, if not, what factors will decide whether this becomes a reality or not?

    o Are the assumptions of the Knowledge Promotion in accordance with young people's actual use of the Internet?

1.4 <u>Thesis structure</u>

Both chapter 2 and chapter 3 will include a review of relevant literature. The literature covers the academic background for my research questions, main features and how it is relevant to my research. In chapter 2 I will introduce one of the key debates regarding the Internet, the digital divide. I will then present what Hargittai calls the "second-level divide" and relate that to the concept of digital competence. In chapter 3, I will introduce the educational reform The Knowledge Promotion. I will also look at the introduction of digital tools as a basic skill in the Norwegian educational system, and discuss the reform in relation to the so-called digital generation.

Chapter 4 will outline my theoretical approach, which originates mainly from Science and Technology Studies (STS), supplemented with concepts and theory from the sociological field. The chapter introduces and discusses different theoretical approaches to the relationship between technology and society. The aim of the chapter is to present an alternative way of understanding technology and society. On the basis of this it is possible to recognize how implicit theories about the relationship between technology and society inform and are evident in expectations towards the Internet and the Knowledge Society.

The empirical data is presented in the beginning of chapter 5. As mentioned earlier, the purpose is to provide empirical information about young people's actual use of ICTs, these findings can then be compared and contrasted with popular perceptions, found, for instance, in the media or in public documents. The empirical findings will also serve to illustrate paradoxes and inconsistencies that will be the subject of the

following discussions. This chapter will be more concerned with how young people actually use the Internet, and will focus on the contextual mechanisms influencing the use of the Internet. Based on the conceptual approach outlined in chapter 4, I will then discuss how Internet technology is interpreted and incorporated in young people's everyday activities. I believe that the diversity of backgrounds, attitudes and personalities of the interviewees constitute a good variety of the general population, and hopefully provides a valid foundation that many can identify with. The material from the interviews will be discussed in relation to the concept of digital competence and the introduction of the Knowledge Promotion. I will also examine how young people's perceived usage coincide with their actual usage, and relate my findings to the issue of digital competence. Since I aim to explore people's personal experiences and perceptions I rely on qualitative interviews, rather than surveys and statistics, as empirical data for my main analysis.

Chapter 6 consists of concluding remarks. Here I will sum up the general arguments of the thesis, give a critical evaluation of my own work and suggest some steps for further research in the thesis conclusion.

1.5 <u>Methodological considerations</u>

Methodological considerations are of great importance to secure the validity and reliability in an empirical thesis. In this section I will present the strategy and the methods I have used in order to acquire information, and discuss possible problems and sources of error in my empirical research.

The first part of this thesis consists of literature review in order to better establish the theoretical framework, and to be able to get an insight into several different perspectives. The theoretical framework and the empirical material are both intended to explain technology in one specific context, by doing this I will hopefully not be able to "black box" the technology in itself.

The method I chose as most relevant for the empirical was the qualitative interview. I will later discuss the reliability and validity of using this research method in my thesis.

1.5.1 <u>Strategies and methods</u>

In order to collect the necessary information related to my thesis, I conducted thirteen interviews with young people in Oslo. I regarded the number of interviewees as suitable due to time and capacity constraints. The interviewees were selected with the help of local Red Cross youth centres, and were to the best of our abilities diversified when it came to gender, ethnicity, and social background. The two Red Cross centres I chose to use are located in two very neighbourhoods Oslo, and the visitors at these two youth centres have vastly different backgrounds, and therefore gave a diversified sample of interviewees. The youth centres are open from three o'clock in the afternoon until ten o'clock in the evening, and serve as a safe haven for young people to meet and socialize. There are always adults present at the youth centres. The users of the youth centres are mainly there to socialize with friends but they also come to use the Internet, get help with their homework, play games of

different kinds and attend different activities, for example belly dancing classes. The interviewees are all regulars at the youth centres, and were hand picked by the one in charge at the two youth centres. It would be too optimistic to aim for a complete and representative group of interviewees, and it is evident that a similar group consisting of other people could have provided quite different answers. However, I do believe that the sample will be adequate to indicate a general tendency, and to provide examples of different types of uses and users. Furthermore, the data illustrates how factors such as education, future goals and situational contingency play an important role for young people when using the Internet.

All the participants were between the ages eighteen to twenty years old. This age group was selected partly for practical reasons. By interviewing young people over the age of eighteen, I did not have to get their parent to consent to their participation. Also being over the age of eighteen means that the participants would be finished or almost finished with upper secondary school, where the use of Internet is highly encouraged as a part of the education. This meant that they had been able to decide for themselves whether the Internet is a useful tool for them, or not.

When one uses interviews as a method, there are different approaches to choose from both in structure and in style. It is common to distinguish between structured, semi-structured and unstructured interviews (Kvale 1997). I believed it to be most suitable to use a semi-structured approach in order to gather the necessary and most relevant information. The use of semi-structured interviews allowed for flexibility in the responses given to me by my informants, and might be conceived as less

threatening than a more structured interview. A pre-determined list of topics that should be covered generated a more conversational interview (Kvale 1996) thus providing more in-depth information or what Clifford Geertz (1973) would have called *thick description*[3].

The interviews were all carried out face-to-face, and I used a tape recorder with permission from the interviewees in order to make the recollection of information easier. The advantage of using a tape recorder in this situation was more important than possible disadvantages, and I did not experience the recorder to be any problem to the interviewees.

When using qualitative interviews it is important to be aware of the possible sources of error that might influence the data in any way. Such errors could be that the informants withhold information that could have been relevant, or that the informants are uncomfortable with my presence and that might influence their answers in any way. A third possibility is that my presence as a researcher might bring forth answers that the interviewees believe I would like to hear, rather than the truth itself. This error might occur due to the researcher's leading questions, or the interviewees' wish to please, either way this might present threats to the quality and validity of the research material (Kvale 1996).

I made an effort to compensate as well as possible for these potential errors by

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[3] Geertz distinguishes between "thin description", which is a more superficial description, and a "thick description", which explains the circumstance surrounding the practices within a society. According to Geertz, the task of social scientists using qualitative method is to give thick descriptions. (1973)

developing a semi-structured interview guide[4] that was topic oriented, and by that trying to make the young people that I interviewed more relaxed, feeling that it was more of a conversation than an interview. I also made a point of expressing that I am bound by professional secrecy and that there is no right and wrong answer to the questions I asked. I also tried to be conscious about the way that I behaved during the actual interview situation, trying to be less researcher and more conversational partner and by that letting the interviewees express their thoughts, opinions and knowledge more freely. A negative side effect might be that my rather active participation did influence the responses to a certain extent. On the other side, I do think that close interaction is the best way to achieve honest, detailed responses, especially when talking to young people, as long as the shortcomings of the approach are being accounted for.

All thirteen informants participated in a half an hour to forty-five minutes long interview that also contained a practical test in the beginning, and some of them also answered follow-up questions through e-mail when a matter needed more thorough clarification. The practical test consisted of two exercises where the participant had to show me how he/she would use the Internet to find information about the subject given to them by me. They all got the same subjects or keywords, which were *The Second World War* and *The Norwegian Labour Party's environmental policy*. By giving this assignment I hoped to get a better and more in-depth look at their Internet practices and abilities. This rehearsal proved to be very useful as an icebreaker in the

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[4] The interview guide will be included in the appendix at the end of this thesis.

beginning of the interview, and also gave me an idea of how advanced and technical the language should be during the interview.

Interviewing young people themselves, and not teachers or employees at the youth centres, I was provided with a more complete knowledge of young people and how they use the Internet. The inevitable question is, however, whether the findings would have been significantly different with another selection of interviewees. If I had not chosen to use youth centres' but instead contacted different schools, would I then have reached another conclusion? This is a difficult question, but as far as I can see, the selection of interviewees that I have used as my empirical basis can provide some examples and tendencies, and maybe show that young people's usage is not as straight forward as it is perceived to be in official documents.

Chapter 2

A Review of Literature and Concepts:

Exploring a Potential Knowledge Divide

In this chapter I will present the literature and concepts I have found useful to my research, explain their relevance to my topic and how they supplement each other. As previously stated, the purpose of this research is to look at in practice how young people today use the Internet in general, and more specifically how they use it as a knowledge tool. The literature chosen will provide a foundation for the empirical research presented in chapter 5 and is relevant in that it introduces some important concepts when it comes to Internet usage.

I will start of by introducing the concept *digital divide*. I will look at several theories relating to the divide in various ways, and also look at the different ways the concept can be used. Using research on the global digital divide as my starting point, I want to introduce the leading debate regarding the Internet and access before I move on to look at the concept of a divide on a more local level. I will here suggest that a new focus is in order when it comes to the issue of a digital divide.

I will be drawing on a range of disciplines including anthropology, sociology, media and communication studies. I find that blending the disciplines will help enlighten the

research questions and provide a broader and more relevant groundwork when introducing my own empirical findings.

2.1 The Digital Divide: A Global Perspective.

Research concerning Internet usage has usually centred on the concept of either a global or a national digital divide. In the last few years it has become apparent that the core issue regarding Internet use in the developed world might no longer be access, but rather a new divide between the ones who know how to use the Internet and the ones who do not know how to use it properly. I will discuss this transition later in the chapter.

The phrase *digital divide* was introduced in American government reports as an expression of imbalance in access and availability in the use of information and communication technologies, first and foremost computers and the Internet. (Smette, Moshuus and Torgersen 2007) In a society where knowledge-intensive activities are progressively more important components of the economy, the distribution of knowledge across the population is increasingly linked to social and economic stratification. The mass diffusion of the Internet has led many to speculate about the potential effects of this new medium on society at large. This deterministic assumption underlies core arguments in the debate concerning the Internet and its potential effects on society. The validity of these arguments will be discussed more thoroughly in the next chapter of this thesis.

When talking about a digital divide, a main focus has usually been on the global effects of the divide; the gap between industrialized and developing countries. I will follow Pippa Norris' (2001) definition of a global digital divide as referring to "the divergence of Internet access between industrialized and developed countries". The digital divide is often conceptualized in binary terms, as to whether one has access or not. In the years that the Internet has been available, it has diffused widely. Some inequalities in access have already closed; other gaps seem to persist. The absolute gap between rich, developed countries on the one side, and developing countries on the other, however, has increased (DiMaggio et al 2001). Bridging the *digital divide* has been and still is an important issue for both the UN and other global organizations that work with development. One of these organizations' main goals is to ensure equal participation in the knowledge society for all countries.

Different expectations when using Internet technology is apparent in that some people see Internet technology as giving easier access to knowledge and entertainment, while others see it as time consuming and unnecessary. This could also be linked to some of the diverging ideas people possess regarding new technology and the adaptation to it in general. These different expectations illustrate the contradictory visions and beliefs on how technology actually functions in a society. The opposing views concerning the Internet presented earlier in this thesis, represent optimistic and pessimistic visions of a digital future. Internet enthusiasts have envisaged the Internet as a way to reduce inequality. They would argue that having easier access to knowledge and information might increase the possibilities of obtaining a more satisfactory job and hence create more equality. The other side

has argued that the advantages of Internet access will mainly benefit those who are already privileged, while denying even more opportunities for the unprivileged. Both views presented are problematic and probably not very realistic as they represent extremes, a dichotomy. Rather they should take into account how the Internet works in actual practices, and take into consideration more than mere access when discussing the social benefits of the Internet.

It is difficult to talk about both access and disadvantages in absolute terms, as they are relative terms dependent on local definitions and expectations (Henwood et al. 2000). Many people in the western part of the world have a different perception of what constitutes access to the Internet, than people from the developing world. Internet access should not only be seen as whether one has personal access at home or at work. This ethnocentrism does not take in to consideration that in many countries computers and the Internet are public goods shared within a community. This is not mentioned to reduce the importance of providing and securing technical access to the Internet on a global basis, but rather to be aware of the multitude of socioeconomic situations having impacts on the definition of access (Henwood et al. 2000). Following Henwood et al, technical access as well as expectations are socially constructed and related to actual experiences with the Internet, and it might therefore prove difficult to talk about a "digital divide" in absolute terms. Research regarding *non-use* of the Internet has revealed that besides technical access, time and financial limitations are important factors. Also experienced necessity is among other factors, which have implications for the use of the Internet (Woolgar 2002, Wyatt et al. 2002).

2.2 <u>From Digital Divide to Digital Competence</u>

Digital divides do not merely exist between countries and cultures. Equally important is the widening digital divide *within* societies. Pippa Norris (2001) defines a social divide as "a gap between information rich and information poor in each nation". As the Internet has become increasingly essential to life, work and play, it becomes even more important if certain groups and areas are systematically excluded, such as poorer neighbourhoods, rural communities and different ethnic groups. Governments in many countries have recognized this problem, and have therefore developed different initiatives to tackle what could be a potential problem. In Norway, the solution to this has been to make computers available in all public libraries and other public offices and also making sure that all the schools have enough computers with access for all the pupils (E- Norge 2009).

Much research has shown that access to computers and the Internet at home varies clearly with the parents' education and economy (Livingstone 2002, Rice and Katz 2002). This has as a consequence led to many countries putting a strong focus on the school system and made it an educational responsibility to provide all the pupils with computer access and competence (Smette, Moshuus and Torgersen 2007).

Researchers have stressed that merely looking at binary classifications of who is online and who is not, has become less useful today when discussing questions of inequality and divides in relation to the Internet (Hargittai 2002, Frønes 2002, Norris 2001). According to this approach, discussions about Internet use have focused on

access only at the expense of considering important aspects of use. Effective access to the Internet means much more than simply having a network-connected machine available in your house. It might be too simplistic to assume that merely having access to the technology means that one will automatically find relevant information on the Internet. Hargittai proposes a more refined approach to the digital divide. "A more comprehensive understanding of digital inequality is necessary if we are to avoid increasing inequalities among different segments of the population due to disparities in effective access to all that the Internet has to offer" (2003: 20).

There has been a great deal of attention among researchers towards who has or who does not have access to the Internet or who are Internet users. Access is usually defined as having a network-connected machine in one's home or workplace, while use more specifically refers to people's actual use of the medium beyond merely having access to it (Hargittai 2003: 3). Several theorists have suggested that a new focus is in order when it comes to Internet usage (Hargittai 2002, Di Maggio et al 2001, Henwood et al 2000, Frønes 2002). The pressing question now is less *"who can find a network connection from which to log on"* than "*what are people doing and what are they able to do, when they go online"* (DiMaggio et al 2001: 28).

This kind of access is not just a matter of technology it is also a matter of skills and competence. This cultural and educational capital seems to be quite unevenly distributed. Given today's popularity of everything related to the Internet, it is good to see that the research done on the Internet has been expanded to exceed that of only looking at access. Through a review of the current literature on a global and a local

digital divide, I have tried to show that a new focus regarding the digital divide is in order. This change in focus will be more thoroughly discussed in the next chapter.

Chapter 3

A Review of Policy and Concepts:

Introducing "The Knowledge Promotion"

Education, Education, Education!

Tony Blair 2006[5]

The diffusion of technology is rapidly changing and statistics from Statistics Norway as well as "Ung i Norge"[6] shows that 95% of households with children under eighteen in Norway have access to a computer at home, and 85% have access to the Internet at home in 2007. As a comparison in 1997 approximately 50% had a computer at home and 13% had access to the Internet.[7] This of course does not mean that we can ignore the consequences for those without home access, and there might also be large differences in the quality of the equipment (Smette, Moshuus and Torgersen 2007). Still, the challenges regarding ICTs in Norway today does not primarily concern access, rather it concerns competence and skills. Use of computers and Internet has become a public challenge, especially in the school system. (Smette, Moshuus and Torgersen 2007) How can the schools relate to and adapt these new communication technologies in ways that suit the information society?

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[5] 26th of September 2000 UK Prime minister Tony Blair, made education his government's first and foremost priority
http://news.bbc.co.uk/1/hi/education/943374.stm
[6] "Being Young in Norway" (Ung i Norge) is a report published by NOVA (Norwegian Social Research) concerning young people in Norway.
[7] http://www.ssb.no/ikt/

In this chapter I will introduce the new educational reform; *The Knowledge Promotion* and discuss the concept of digital competence in relation to the digital generation.

3.1 Educating the masses or mass educating?

In 2006 the Norwegian government launched a new educational reform to relieve the last educational reform; *Reform 97*. In a report to the Norwegian Parliament[8], the government suggested making a new reform with the intention of "*building the best school system in the world*". This reform was named *The Knowledge Promotion*.[9] The reform aims to change the compulsory primary and secondary education and adjusting it so that the schools "are better equipped to meet the challenges of the Knowledge society" (St.meld 30. 03/04: 3). The reform introduces certain changes in substance, structure and organization from the first grade in the 10-year compulsory school to the last grade in upper secondary education and training.

One of the goals of the Knowledge Promotion is to help all pupils develop fundamental skills that will enable them to participate actively in the knowledge society. This transition includes introducing a new *basic skill* (Søby 2003, St.meld. 30. 03/04: 30): in addition to reading, writing and calculus, *the ability to use digital tools*, would now be considered one of the basic skills to be acquired in the ten year compulsory education. Basic skills are vital units for developing an overall competence (St.meld. 30. 03/04: 31).

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[8] Stortingsmelding 30 "Kultur for læring"
[9] In Norwegian; "Kunnskapsløftet"

The report states clearly and convincingly that;

> (…) *basic skills in using digital tools are a condition for functioning in today's society. Included in this is the ability to derive, store, create, present and exchange information. The ability to master digital tools is vital to function in both social- and work life, as both are becoming more digitalized.*
> (St.meld. 30. 03/04: 32)

Accordingly, there would be new syllabuses in all subjects adjusted so as to enhance the new basic skill.

In 2004, as a part of the Knowledge Promotion, the government introduced a five-year ICT plan *Digital competence for all 2004-2008*[10]. The program stated as their first of four goals;

> *"In 2008 all Norwegian educational institutions will have sufficient access to infrastructure and services of high quality. The educational arenas will provide technical equipment and high quality broadband access. The development and use of ICTs in education will be supported by cost-effective solutions".*
> (My translation, Ibid: 7)

Most of the schools in Norway have reached this goal by the beginning of the school year 2007[11]. Many upper secondary schools have also instructed their pupils to have laptops at the start of this school year[12]. The laptops will be partly funded by the government, and the pupils will only pay a small symbolic sum to lease the computer for their three last years at school. After that, they get to keep the computer, and may use it in their further education.

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[10] In Norwegian; "Digital kompetanse for alle"
[11] Kunnskapsløftets andre år:
http://www.regjeringen.no/nb/dep/kd/dok/tidsskrift_nyhetsbrev/Forsiden-KD-aktuelt2/KD-ktuelt-nr4/Grunnskole-2/Klart-for-Kunnskapsloftets-andre-ar.html?id=469660
Digital komptetanse:
http://www.regjeringen.no/nb/dep/kd/dok/tidsskrift_nyhetsbrev/Forsiden-KD-aktuelt2/KD-ktuelt-nr4/Grunnskole-2/Digital-kompetanse.html?id=469665
[12] http://www.regjeringen.no/nb/dep/kd/aktuelt/nyheter/2007/Apner-for-barbar-PC.html?id=456655

Making sure that children and young people growing up today are able to manoeuvre their way around the digital information society and master the new technological tools, is evidently considered of great importance to the educational system. (Søby 2003, St.meld. 30. 03/04) Government authorities as well as researchers refer to being able to master new information and communication technologies, as having *digital competence*. Digital competence[13] is defined as "the competence that builds a bridge between skills such as reading, writing, calculations, and the competence needed to use new digital technology tools and media in a creative and critical manner" (Søby 2003).

Despite the focus on digital competence, however, it is not mentioned at all how this digital competence will be developed. There seems to be an inherent belief that merely providing sufficient access and making the *ability* to use digital tools a basic skill, will automatically lead to the pupils becoming digitally competent.

The report *e-Norge 2009* (e-Norway 2009) emphasizes that competence is society's most important resource and a prominent factor in producing values and economic growth. European and American studies indicate that the cultivation of digital competence will be one of the main driving forces in economic, social, and cultural developments in the future. (Søby 2003) The report *ICT in education 2004-2007*[14] states that the policy makers have visions and aims that relate Norwegian

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[13] http://www.regjeringen.no/nb/dep/kd/Ryddemappe/kd/norsk/tema/utdanning/ikt/PFDK-Program-for-digital-kompetanse-2004-2008.html?id=414840

[14] In Norwegian; "IKT i undervisningen"

educational practice directly to the knowledge requirements and challenges we face in an information society. Thus, situating Norway on par with comparable countries that provide an education in digital competence, with quality learning experiences and good teaching strategies (Ibid). Manuel Castells is on to something similar when saying that the critical matter today is to "shift from learning to learning-to-learn" (2001: 159). By this he means that as most information available is on-line, then what is required is the skill to know what to look for, how to retrieve it and how to use it for the specific task that prompted the search for information.

The initial official focus on access to ICTs as mentioned in chapter 2, implied that usage should have an equalizing effect on certain disadvantaged social groups. This has however been replaced by an increasing focus on digital skills rather than on technological access. What used to be a focus on public efforts to make new technologies available for all social groups has changed to become a focus on enhancing the digital competence of disadvantaged groups, hence equalizing their position in relation to the advantaged groups. An approach like this often seems to assume that using new communication technologies will automatically provide a positive outcome in young people's knowledge in other areas as well.

Frønes (2002) argues that the schools should provide a basic education in reading, writing and calculating, and not including digital tools as a new basic skill. He believes that thorough education in the original basic skills will function as a foundation when the students are to use the new technologies, and the combination of this will make them adequate members of the knowledge society. Søby on the

other hand emphasizes the importance of making digital tools a basic skill and argues that there is a need for a completely new curriculum, more suited to the growing necessity of digital literacy (Søby 2003). The school of the future respects and utilizes the students' personal choice of media; laptop computers, handhelds, and cell phoned are integrated in daily life at school and are part of the students' daily media use (Søby 2003). These opposite views introduce an important question; is there a correlation between digital competence and academic achievements?

It seems that a radical change in the education system was inevitable, if it was to render the pupils able to face the complexities and rapid changes in the Knowledge Society. Accordingly, it has become more important than ever to ensure critical thinking when using the Internet as a major part of the education. Internalizing digital competence for all will take time and will be a long term project, which demands an overall understanding of how digital tools should and could be successfully integrated in the school systems. This process will involve a massive readjustment on behalf of both teachers and policy makers, but also on behalf of the pupils. This seems to have, in some way, sunk into oblivion seeing as there has not been much focus on what the pupils think of this change.

3.2 Digital Competence: Introducing The Digital Generation?

When they first emerge, almost all important new technologies have caused fears over their potential impact. Debates driven by dystopian moral panic on the one side and utopian determinism on the other both seem to be contrasted with the way

young people actually view and use technologies.

It has been argued that the Internet has created an "electronic" or "digital" generation. This generation was born in the beginning of the 1990's, and has never experienced a world without the Internet. According to Buckingham and Willet, this new digital generation is more democratic more imaginative, more socially responsible and better informed than preceding generations (2006: 76). Children today are often seen as having a more instinctive knowledge about technology than adults can ever have because of the non-technical era they grew up in. The narrative of the *cyber-children* (Buckingham and Willett 2006) or *e-children* (Livingstone 2002) has become the dominant way of talking about a whole generation. As a result people tend to assume that all children are equally confident and able users of technology. This type of research has neglected the attitudes and everyday practices of quite a few young people who do not use computers and the Internet actively. Too little is known about "non-users" of the digital technologies (Wyatt et al. 2002).

The *MySpace Generation*[15], as they are also called, take the Internet for granted in a way the generation before did with television. For the Digital Generation services such as Internet forums, email and search engines like Google are part of everyday life. It has been suggested that with this new digital generation, the Internet also experienced a generational change from Web 1.0 to Web 2.0. The phrase Web 2.0 refers to an alleged second generation of web-based communities and hosted

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[15] Business Week December 12th 2005.

services — such as social networking sites, and end-user generated web-pages — which all aim to facilitate collaboration and sharing between users.[16]

The extreme popularity of new Internet sites such as Wikipedia, YouTube, MySpace and Facebook could possibly suggest the same, seeing as these new websites are mainly created by the younger Internet users. User-generated content is not only responsible for a substantial part of Internet content through blogs, home pages, but is also relied on by corporate sites (Wyatt et al. 2002). Writing reviews, participating in mailing lists, hosting chat lines, uploading music and videos, writing open-source software, and keeping virtual communities active are some of the main ways through which users' labour is used to sustain the economic development of the Internet (Wyatt et al. 2002). This sort of Internet use could be seen as a new paradigm in which the users themselves are co-producers of Internet services. Sonia Livingstone characterizes it in terms of a broader societal shift: *a blurring of key boundaries between producers and consumers, work and leisure, entertainment and information* (2002).

When ICTs are used as an educational tool, and are integrated as natural parts of the education in all subjects, it is assumed that the pupils will develop a familiar and confident relationship with the technology and its possibilities. ICTs as an educational tool are here argued in a slightly deterministic manner to increase the possibilities to get a differentiated and individualized educational training. Making sure that the pupils become digitally competent would evidently solve many of the

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[16] http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html

alleged problems in the educational system. But would a computer in itself teach digital competence?

Increasing use of digital tools, both inside and outside the school system, can provide children and young people with new possibilities when doing school related projects. The traditional way of doing homework could be supplemented with the possibilities that computers and the Internet can give, like blogs and home pages and other Web 2.0 related activities. The word digital competence also involves interpreting, reading and writing of digital medias (Søby 2003). Accordingly, by transforming the way we see homework today, we might be able make it more interesting for young people through adjusting it more towards how they use digital tools. Doing this means actually meeting the pupils on their terms and conditions, and could also lead to more dialogue and two-way education within the school system.

The current generation of decision-makers – from politicians to teachers – sees the world from a very different perspective than young generation, who does not remember life without the Internet, text- messaging or instant messaging services like MSN. It is these decision-makers who shape the way that digital technologies are used in the school system. As will be seen in chapter five, young people use the Internet and computers for different reasons than adults do. Many parents have in the name of education given their children their own computer with Internet access, often because the parents believe that their children would spend more time using it for homework.

Digitalizing the schools and increasing the focus on *digital competence* is indeed an important agenda, but there seems to be some vital details missing. How do these children acquire digital competence? The SAFT study[17] from 2003 included over a thousand Norwegian children between the ages of nine to sixteen and showed that 96% of them had used a computer. There is no reason to believe that this number has been reduced in the last few years. The same study also showed that 93% had never or only a few times been educated in *how* to use the Internet. There is an apparent deterministic argument found in official documents claiming that just providing young people with computers and access will make them more digitally competent, and perhaps more competent in general. There is a vast distinction between using ICT as a communication tool and using it as a knowledge tool, which seems to be a point lost on some policy makers.

3.3 <u>Concluding remarks</u>

Through a review of current Internet research and discussion of the concept digital competence, I have argued the need for a proper understanding of Internet technology and of the role it has in young people's lives. This requires an approach that focuses not only on the *ability* to use digital tools, but also on the importance of knowing *how* to use the digital tools. In the Knowledge Promotion the importance of digital competence is emphasized thoroughly, but there is no mention of how the pupils will achieve this competence. My argument is that digital competence is in fact

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[17] Safety, awareness, facts and tools study. http://www.saftonline.no/

like driving a car; it has to be taught so that one is able to read the "signs" and to know which buttons to push. Hence it is not sufficient to provide laptops with broadband access at all schools if one does not know how to "drive" properly.

Therefore in chapter five the diverging aspects of use will be analyzed. Here I will look at young people's Internet use in practice, study how they find material online and demonstrate in more detail how equal access can give unequal results.

In the following chapter I will focus on STS theory, by examining the concepts of technological determinism and constructivism.

Chapter 4

Presenting the Theoretical Framework:

Constructing Internet Technology

Research concerning the Internet has attracted much attention in several disciplines, such as sociology, media studies, psychology, anthropology and science and technology studies. In this chapter I will introduce the theoretical material used as a framework for this thesis. The concepts introduced in this chapter will be used in the following chapters and discussed in relation to my empirical material. By presenting various theoretical approaches to technology, I hope to create several ways of seeing how theories on technology are manifested in actual practices regarding Internet usage.

The Internet has been the subject of immense expectations, which can be seen as expressions of a deterministic ideology. This viewpoint implies that technology is a governing source in society, that technological progress represents social progress (Henwood et al. 2000). The introduction of information and communication technologies may not cause a direct social change in the school system nor increase the level of understanding for challenged pupils, as determinists would argue. However, it is possible that Internet technology does have some social significance as it has in many ways affected the way society regards communication, seeing as

communicative tools such as emails, instant messaging and web-cameras now are regular parts of everyday life.

As an opposing view I have chosen to look at some perspectives on social construction theory. Whereas technological determinists present social change as the result of technological change, social constructivists explain technologies as being actively shaped by different social groups (Henwood et al. 2000). The constructivist viewpoints present an alternative analytical framework for one to look at concerning Internet usage, one that might prove to be more suitable when introducing my own research in the next chapter[18].

I will also look at a second general form of social constructivism, introduced by Pierre Bourdieu. He views technologies as elements present in our language, and also in our symbolic universe, which presents an interesting way of looking at computers and Internet usage. Still, it is important to make clear early on that I have chosen to use theories on social constructivism quite selectively, and interpret them the way I find most beneficial to my analysis[19].

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[18] Wyatt (1998) describes a third way of looking at technologies, in addition to determinism and social constructivism. This view is called "technology as neutral", and I have chosen only to briefly mention this viewpoint later in this chapter. The idea of technology as being neutral has been - just as determinism - a position apparent in popular opinion. I have therefore chosen to focus more on determinism seeing as this view is easily detected in the debate regarding the Internet.

[19] Michal Callons Actor-Network Technology (ANT) could also have served as an alternative framework. I have chosen not go into this theory at all due to the thesis limitations and also I believe that social constructivism has more to offer my research material.

4.1 <u>Determining Technology</u>

The Internet is indeed a technology of freedom – but it can free the powerful to oppress the uninformed, it may lead to the exclusion of the devalued by the conquerors of value.

Manuel Castells 2001

According to MacKenzie and Wajcman (1985) technological determinism is the most influential theory of the relationship between technology and society. They define determinism as "the theory that technology is an independent factor, and that changes in technology cause social changes". Technological determinism is often an inexplicit, taken-for-granted assumption, which is assumed to be *self-evident*. Determinists can often make their statements seem like common sense: the issue is presented as an *unproblematic given* (Wyatt et al. 2002).

In its strongest version, technological determinism claims that change in technology is the most important cause of change in society. The hard technological deterministic view sees technological development as an autonomous force, completely independent of social constraints (Smith and Marx 1994). Consequently, a determinist might argue that a digital divide is the main reason for social inequality, believing that access would enhance one's quality of life. A soft deterministic view would be a little less extensive. Accordingly, the soft view of technological determinism states that technological change drives social change but at the same

time responds discriminatingly to social pressures (Smith and Marx 1994). The hard view allows no room for the possibility of affecting technology at any level, while the soft view allows society to have a slight effect on technological change. Although most academics today reject deterministic perspectives, it is still evident in both public- and political discourse.

Thinking about the relationship between technology and society in terms of effects has been commonsensical for so long that it has not needed a label. This could be due to the role deterministic views have in both public- and policy debates regarding the technology, as the diffusion of certain technologies is often viewed as a solution to various societal issues. It was its critics who named it technological determinism (Wyatt et al. 2002). Technological determinism has now become a term of abuse among scholars. Even those who agree with the idea of technological change being the prime mover of socioeconomic change strongly reject the label (Bijker 1995).

Public and political discourses on computers and the Internet have often been polarised. The utopian view presents computers and the Internet as a mode of *unleashing human creativity* (Wyatt 1998), whereas in dystopian deterministic terms all technology is "*a product of necessity's iron hand pointing towards a totalitarian nightmare*" (Smith & Marx 1994).

"Being able to use digital tools is a vital condition for functioning in today's society", states the Knowledge Promotion proposal (St.meld 30, 03/04: 32). Inherent in this statement is a technological determinism implying that people who do not use digital

tools, will never become adequate members of society. Although the Internet and computers are widely used in Norway, there will probably be some individuals choosing not to use it. This might be due to finding it time consuming, expensive or just not that interesting. Wyatt et al. (2005) support this view and also claim that *non-use* as a choice does not always reflect a position of disadvantage. Use of the Internet and digital tools, are in politics often discussed in binary terms regarding just access. This tendency seems often to result in some sort of short-term technological fix, where the Internet is used as a contemporary argument and modern solution, and an easy way to for politicians to prove themselves to be future-oriented.

As we have seen, determinists argue that technologies evolve linearly and have a direct impact on society, like the assumption regarding the digital tools mentioned above. Internet technology will accordingly promote social change and increase participation through an open and accessible public sphere in which differences and inequalities become invisible and redundant. Within this kind of approach, human choice is not emphasized at all, and social change is the direct result of technological change (Wyatt et al 2002).

Some critics argue against technological determinism on the grounds that technology is *neutral*. They argue that whether technology has good or bad effects on the world depend entirely on the choices people make regarding how to use it (Wyatt 1998). The technology in itself follows an internal technical logic of its own, independent of all social factors.

However, technological determinists can also be criticized for their traditional tendency to view technology as a separate, autonomous and value-free force in society, developing independently from human interaction and culture (Bijker 1995). This might imply, that being able to properly understand technology could be seen as an area only for experts such as engineers and scientists, who view technology in terms of objective and quantifiable facts (Bijker 1995, Winner 1985).

Technological determinist positions hold that shortcomings in existing technology will be resolved when better technologies are invented. Therefore, technological change is thought to inspire social change (Henwood et al. 2000). Consequently the belief in technical progress as the only way to enhance our quality of life has been thoroughly established in the last few decades (Winner 1985), and is very much alive in the conventional attitudes concerning educational policy.

4.2 Constructing Technology: Social Constructivism

The science and technology studies field provides an alternative framework for the study of technology and society. Social constructivism refers to different yet related constructivist approaches within science and technology studies. Instead of examining the impact of technology upon society, the focus is rather on examining how technology is socially shaped or constructed as opposed to the view of technology as an autonomous developing force in society. (Jasanoff, Markle, Petersen and Pinch 1995: 225)

The social construction of technology (SCOT) perspective is in many respects associated with the work done by Bijker and Pinch. SCOT emerged as a reaction to shortcomings of the determinist perspective, and sees technological development as socially created through a compromise between several actors in the form of relevant social groups (Bijker 1995). The development of a technology is seen as the result of negotiations between the supporters of various options, which in the end results in a sort of stabilization and closure when one alternative is recognized and approved as the final result. During this process, relevant social groups are identified according to their active interest in the development and negotiation process.

Contrary to the perception of technological qualities as inherent in artefacts, social constructivist theory uses the idea of interpretive flexibility to display that given technologies have different significance to different social groups. This could be illustrated by the example mentioned earlier concerning non-use of the Internet. A determinist would argue that one has to use the Internet for one's own good, while social constructivists would recognize the possible technological resistance as a part of the interpretive flexibility.

Followers of the SCOT theory apply the concept of interpretive flexibility to technological artefacts to show how artefacts are the product of negotiations. Technological artefacts are sufficiently indeterminate to allow for numerous potential designs. Whatever the designs are that finally result from the process, they could have come out completely different. These negotiations are carried out between the relevant social groups. The social groups bring their own ideas and intentions to the

design process, and thus they influence the shaping of the technology. Accordingly, technological development is seen as dependent on social- and political power structures. Therefore, it is argued that technologies are not value-neutral as mentioned earlier, but infused with and shaped by the cultural-, political- and social values dominant among the social actors that achieve influence on the design process (Bijker 1995). Hence, the identification of relevant social groups is important in order to understand technological development. Technological development is a process in which several groups, each representing an interpretation of an artefact, negotiate over its design, with different social groups seeing and constructing quite different objects. For example, groups may have different definitions of what the working technology should contain, so the development will continue until all the groups come to an agreement that their common artefact works. The negotiations and compromises between these social groups will in the end lead to closure and stabilization.

According to social constructivist perspectives, technology operates in society and not as a distinct and separate field. Technology is constructed within society and the development of technological artefacts is not autonomous from social, political and economic factors, as determinists would argue (Henwood et al. 2000). This notion of technology as interwoven with society, politics and economics, is within social constructivism described as a *seamless web* (Bijker, Hughes and Pinch 1987). This concept indicates that the distinction between technology and society itself is a social construct, and should not be taken for granted. (Wyatt 1998).

However, SCOT and social constructivism in general has been criticized for neglecting to look at the effects of the technology, and also for assuming relevant social groups as main actors (Winner 1993). Although peer-pressure, trends and other processes of socialization could lead to user groups with the same motives and agenda, like the existing groups supporting either Mac or PC's, it might still prove hard to find distinctive groups supporting the same attitudes concerning for example ICT development. Everyone relates to a technology one way or another, since its diffusion will somehow shape their physical environment. This point is crucial in understanding the widespread impact of the Internet on society and also on current ideas of communication. Therefore it could be possible to suggest several degrees of use from active resistance to total acceptance of the technology (Wyatt et al. 2002); Individuals may embrace some aspects of a technology while rejecting others. Also, a user perspective must allow for social- and temporal change, since attitudes towards technology may alter as people age, receive education, change their jobs, lifestyles, etc. (ibid).

Social constructivism offers a different understanding of technology than the deterministic explanation and does not believe in a short-term technological fix making technology an autonomous force in society. Social constructivists argue that technological development is part of a complex socio-technical system influenced by different mechanisms. Accordingly, social processes influence and have an impact on technology in contrast to technological determinism, which emphasizes the direct impact of technology upon society.

Still, Social constructivism and SCOT has also attracted criticism because they pay little attention to groups that are deliberately excluded or have no social voice. Winner (1993), for example, suggests that social constructivists disregard the dynamics involved in technological change on behalf of the social actors involved; for example, what about different political- or gender biases in a social system? Accordingly, the identification of relevant social groups may provide a basis for inclusion and exclusion in technological development. Feminist research has rightly criticized the idea of relevant social groups because of potential biases in the identification process. Possible relevant groups may be neglected, and therefore they are not able to influence the development of technological artefacts (Wajcman 2000: 452). In a feminist perspective, the marginalization and exclusion are often detected in the absence of women in technology development. Because technological artefacts are socially constructed, elements of power and exclusion may be detected in the process of development. These elements of power are not just evident in the negotiations and compromises between identified social groups, but are also expressed in the exclusion of other potentially relevant, social groups (Wajcman, 2000).

Also, the explicit focus on the development of technological artefacts and the importance of social aspects in this development, has contributed to the criticism of social constructivism as social deterministic (Winner 1993). The approach may be understood as reductionistic in the sense that the social is emphasized instead of the technical, and supporters of SCOT assume people only to have status as actors and social groups (Akrich 1992: 206). Thus, social constructivism in a way appears as

asymmetrical as technological determinism. While technological determinism argues that technology influences society, social constructivism assumes that social factors influence technological development. In this way, the technical- and the social aspects are more or less randomly divided into different spheres.

4.2.1 Social Constructivism: Technology as Habitus

The essence of the social constructivist argument is that technologies are artefacts, objects made by people. They are not separate but rather constituted by political, economic and cultural processes (Wyatt 1998).

Though Bourdieu does not focus on a potential technological element of his notion habitus, the concept still presents an interesting way to look at technology. Bourdieu uses the term *habitus* to explain the interpretive framework a person brings to bear on the material world, or "the set of dispositions which incline agents to act and react in certain ways" (1991: 12). The habitus is thus not merely a mental state; it is embodied social knowledge, it comes through in everything we do (Bourdieu 1984). The way a person walks and talks etc. are all attitudes and expressions of habitus. Habitus as a concept, symbolizes a correlation of cultural and social values that are internalized in our behaviour through a process of socialization. These processes are regarded as continuous; we are never fully "complete" as humans. Although certain characteristics become fixated over time, they are subject to outside influence, and potential reinterpretation in contexts different from those where they were originally acquired (Ibid). Thus, meanings embodied in artefacts like the Internet and

computers are interpreted differently by different people according to their norms, values, tastes and opinions.

Our perceptions and actions are not simply a product of our habitus, but results of relations between the habitus and the social context in which we bring it to bear (Bourdieu 1984). Habitus underlies and shapes our conscious actions. It includes norms of conduct, material disposition, elements of upbringing, personal taste, and the sense of belonging to social categories of class, political attitudes and lifestyle. As such, the habitus-concept may help explain diversity among practices of consumption.

Bourdieu represents another form of social constructivism, believing that technologies are elements in our language and in our symbolic universe (Wyatt 1998). Bourdieu emphasizes the social and cultural meanings we give to technological artefacts. Wyatt uses the example of a car to show how Bourdieu would argue that the make, its age and colour would all provide meanings for others and ourselves about who we are and what our are values and aspirations are (Ibid). This way of giving meaning to technological artefacts can also be done with ICT technologies. One can prefer a Mac computer that emphasizes design and creativity, or can support the use of *open source* to show an ideological awareness and by that promoting free access to knowledge. Either way the technology could say something about the person choosing to use it. The use of instant messaging services like MSN messenger is another type of technology that gives people an impression of the users as being social, contact-seeking individuals. As we will see in the next chapter

where my empirical material will be presented, the importance of being perceived as social through the use of instant messaging seems to be a significant aspect of young people's use of the Internet. The number of contacts one has often serves as an indicator of popularity. In this sense of social constructivism, technologies are not primarily material objects but an arena for contesting meaning (Wyatt 1998). The physical properties of the artefact are not dominant; it is rather the cultural meanings we try to give them which are imperative. Since these meanings are contested and fought over by different social groups, the same artefact will be understood differently over time and across cultures (Wyatt 1998).

Because technologies do not exist independent of social practice, they cannot be studied in isolation from society. They are embodied in lived practice through habitus, and so even the most basic *phenomenological* aspects of technological practice and experience are themselves parts of the habitus.

4.3 <u>Social or Technological Determinism: A Discussion</u>

The centrality of information in the knowledge society is due in large part to the rapid development and dissemination of computers, and the construction of the Internet.

The two theoretical perspectives presented in this chapter have different approaches to the study of the relationship between technology and society. Technological determinism views technology as an autonomous force outside society, as opposed to the constructivist approaches which view technology as interwoven with society.

Technological determinism is concerned with the impact of technology on society, and accounts for technology in a linear manner implying that technological change has a direct impact on social change. The social context is not considered important in determinist analysis and theories, and this social context I see as essential when studying young people and Internet usage. As a socially constructed technology that has yet to reach closure, the Internet can be changed. The technical code of the Internet is not fixed. The recognition of its socially constructed "nature" is fundamental to conceive social change.

The social constructivist approach is mostly concerned with the development of technological artefacts, and the social characteristics influencing the development. This approach intends to illustrate and make visible the controversies and compromises associated with technological development. One of the main insights is the acknowledgement that technology does not exist in a vacuum, independent of the social context. However, both technological determinism and social constructivism are accused of being reductionistic. The reductionism of either social- or technological determinism is avoided by accepting that there is an interaction or exchange between the two (Wyatt 1998: 19).

Both technological determinism and social constructivist approaches have weaknesses and strengths. Technological determinism and also *technology as neutral,* mentioned earlier, are the explanations that make the most sense of our everyday experiences and continue to appear in popular accounts of technology (Wyatt 1998). As argued earlier many policy makers tend to apply the deterministic

viewpoint. But the social constructivists are more correct in arguing that the development of technology is also shaped by economic, social, political and cultural factors and that the users may interpret the same technology in different ways. All artefacts are the result of human endeavour, created by people with personal, professional and institutional goals (Wyatt 1998).

Technological determinism is challenging because it does not adequately describe or explain technological innovation. For example, activists concerned with the increasingly dangerous impact of new technological systems, such as nuclear power, technological determinism is difficult because it generates submissiveness: Why make an effort protesting against a new technology like nuclear power, when it is certain to endure nonetheless?

By describing new technological artefacts as the result of a process in which several social groups each had their own idea about what the technology should be like, social constructivists undermine the essential principle of technological determinism and, at the same time, make a persuasive argument for public engagement in technological innovation processes. If technological artefacts are results of interactional processes, why should not groups representing public interests be incorporated throughout the phase of interpretive flexibility?

Social constructivism can also be criticized for neglecting the role of users by instead focusing on the design processes, and assuming relevant social groups as main actors (Hughes 1994). Wyatt et al. (2002) argue against stereotyping ICT-users, and

for non-use and technology resistance to be included when approaching user attitudes. I follow Winner's (1993) argument mentioned above, that social constructivists disregard the dynamics involved in technological change and that the process of identifying relevant social groups provide a basis for inclusion and exclusion. I addition to this, my suggestion is that in relation to ICTs there might not exist distinctive social groups. Instead I will suggest an emphasis on the individual rather than on the social groups. Still, I do follow the fundamental idea concerning social actors and how they contribute to the meaning and successes of a technology negotiated through practice.

I have found that it is easy to detect technological determinism when studying ICTs like the computer and the Internet. Still, I believe that the social constructivist viewpoint will establish a better framework for analysis later in the thesis. Bourdieu's (1991) way of looking at technologies as a part of a symbolic and cultural universe might turn out to be convenient when researching young people's Internet use, seeing as the importance of being conceived to be a certain way is often of more value than reality is in itself.

The different theoretical approaches presented will be used in the coming discussions in relation to the empirical case. I intend to use the theories in order to make visible the expectations regarding the use of the Internet in general and the Knowledge Promotion specifically. My intention is not to do a complete SCOT analysis, rather I will focus on young people and look at how they as individuals adapt and use Internet technology. In the next chapter I will present my research

material, based upon interviews with thirteen young users of the Internet.

Chapter 5

Contextualizing usage with skills:

A Discussion on Digital Competence

As we have seen, a considerable amount of both academic and policy attention has recently addressed the so-called "digital divide". Yet less research has addressed children and young people in relation to the issue of digital competence. Seeing as the access related digital divide amongst children and young people in Norway today is as good as non-existing, the focus should rather be on whether they adapt to and use this new technology in the most beneficial way.

So far in this thesis, I have focused on the Internet as a knowledge tool. The different literatures I have presented show that there is a complexity associated with using the Internet. There is a need take a contextual aspect into consideration, to better see *how* young people use the technology in practice. In this chapter I will present my empirical findings, and thus provide examples of some of the different ways in which young people today use the Internet.

I will follow Hargittai (2003: 17) in distinguishing between the concepts; *available* and *accessible* when studying young people. While "availability" refers to the mere existence of the Internet, "accessibility" implies a relative ease of reachability of the

information existing on the Internet (ibid). Seeing that availability of digital tools such as computers and the Internet is as mentioned earlier, mostly no longer an issue, the focus will lie on the accessibility of information that exists on the Internet. The information is "out there" so to speak, but do young people know how to locate it?

5.1 From Theory into Practice

There are many ways to use the Internet. One can use it for communication such as e-mails, or instant messaging; for information retrieval by locating existing material online; or for content creation that allows the user to create their own material or contribute to material already available on the Internet. Many of these activities are contingent on the ability to find different types of resources. That is, even if a user's primary interest is in communicating with people who share similar interests, the user must have the know-how to find such communities (Hagittai and Shafer 2006). Finding information on the Internet – whether it is mailing lists, online shopping possibilities, or reading newspapers – can involve a myriad of actions from the use of search engines to typing web addresses in the location bar of the browser or clicking on directory listings on a portal site (Hargittai 2004: 433). A user may possess many different levels of know-how with respect to the online activities mentioned. The amount of Internet use by itself does not necessarily suggest an inequality among young people, but it might nevertheless exist. Instead one should therefore focus on their ability to use the medium efficiently. By focusing on this instead of access I believe it will be possible to notice a more relevant aspect of Internet use amongst young people.

Knowing details about young people's Internet use and online behaviour can be important for a wide variety of research questions. Studies ranging from political participation to cultural consumption using new media will benefit from detailed knowledge about what kind of information the users view as valuable online, and their ability to view the content as being correct or relevant. Do young people only read about politics through tabloid newspapers, or do they go straight to the information source to make their own assessments? Do young users only rely on content aggregators such as big portal sites to channel them towards content; or do they reach the less well-known and more hidden corners of cyber space? (Hargittai 2004) Does everybody rely on the same search engines, and know how to use them to find the information they want? A focus on variation in digital competence would allow us to see how young people may be best poised to benefit from Internet as a knowledge tool. In addition to this it might also give us a better understanding of the divergence in both skills and usage in relation to young people and the Internet. As earlier research has shown, merely having access to the Internet does not necessarily result in informed users (Hargittai 2003).

5.2 Adoption and Use: Positioning the Role of the Internet

If diffusion were the only measure of success, there would be little left to say about the Internet as a technology, at least in Norway. At this point, Internet accessibility is so widespread that people without some kind of access are a small minority, and are usually people without any desire to use new technology at all. As mentioned earlier,

Statistics Norway estimates that 70 % of the population has access at home. In households with children the estimation is over 90%. In addition to this 90% of all the schools in Norway have Internet access, and as the new school year beings in 2007, several upper secondary schools have introduced individual laptops as a way to increase the digital competence among young people.[20]

In the previous chapters I have argued that the Internet does not mount to much in itself if one does not have the right skills to use the technology properly. The diffusion of Internet technology has been vastly progressing the last decade, thus enabling more users to be a part of a new world of information and communication. Once adopted, the Internet provides its users with an unlimited communication potential and an endless world of knowledge and information, if these users were able to use the Internet in an accurate and beneficial way. My findings suggest that in reality it might not be so straightforward.

The interviewees all have Internet access at home. Still, the responses clearly indicate that the role of the Internet in the users' own life varies greatly. In fact, the diversity concerning frequency of use, knowledge and utilization of the Internet's usefulness is quite prominent and makes it somewhat hard to view the users in question as a homogeneous group. While some refer to the Internet as their main leisure activity, using it both for social activities and as an informational tool, others use it purely as a communicative tool.

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[20] http://www.regjeringen.no/nb/dep/kd/dok/tidsskrift_nyhetsbrev/Forsiden-KD-aktuelt2/KD-ktuelt-nr4/Grunnskole-2/Digital-kompetanse.html?id=469665

Another obvious aspect is the evident inconsistency between the obvious potential of the Internet, and the actual pattern of use. Given the current state of the Internet as a provider of entertainment on many levels as well as its being a unique source of information, it is evident that the main area of interest among young people is the social and entertaining aspect of the technology. All of the interviewees use the instant messenger provider, MSN, on a daily basis. As a reason for doing this daily, some claim that keeping up with "what is happening" is essential for them and their group of friends. Following Winner (1986) the Internet is politically charged, in that it changes the conditions of a certain social setting. This perception is reflected in this reaction to the interviewer's question:

Interviewer: *Why is it so important to use MSN, if you only talk to the friends you see on an everyday basis anyway?*

Charlotte[21]: *I don't really know… But it is just so social. You can sort of hang with your friends, but you are still all alone in your room.*

Interviewer: *Sort of being social, but on your terms?*

Charlotte: *Yeah, maybe like that… But it still really feels like you're right there next to each other sometimes. But you also get to catch up on things we didn't get to talk about at school.*

Evidently, the interviewee talks about the importance of *not* missing out on anything. Her social life is shaped by using Internet technology, and by that changes the entire social setting. The Internet becomes symbolic, just as Bourdieu (1991) argues; having Internet access and using MSN defines her social role, and gives her access

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[21] Interview with Charlotte (18) conducted on May 23rd 2007.

to for what is for her, vital information.

It seems quite apparent that many young people do use the Internet and particularly instant messaging as an alternative to socializing with friends in real life, or even just talking to them on the phone. This new style of communicating seems to be in some cases preferred, instead of socializing after school hours. Several interviewees mention that they go home straight after school, log on to MSN, and then chat with their classmates while doing their homework.

The Internet has in many ways erased the distinction between a private and public sphere, and has introduced new concepts and situations the world has not seen before. This was clearly illustrated by the references the interviewees gave regarding them being social, but on their own terms. The Internet has created a new sphere in between private and public, where one can actively and technologically change ones social situation. Following Bourdieu (1984), this way of giving social meaning to a technological artefact like the Internet constitutes how they as young people would like to be perceived. The Internet serves as a gateway taking them in and out of the public sphere as they please. This is illustrated by Charlotte's comment regarding participation online:

Charlotte[22]:   Me and my friends often have group conversations in a chat room when we're online. Often I just sit and do other things and read what the others are writing. Then I don't miss out on any thing of what they're saying, and I can still do other things like homework.

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[22] Inteview with Charlotte (18) conducted on May 23rd 2007.

This situation of being in-between the to spheres, was according to the interviewee ideal, because she was still part of the conversation and did not miss out on any potentially vital information but did not have to participate unless she really wanted to. This way of communicating and constantly being in touch with friends seems to have redefined the concept of being alone, seeing as one is alone while socializing with friends via cyberspace. An increasing body of literature suggests that the Internet enhances social ties defined in many ways, often by reinforcing existing behavioural patterns. (Rice and Katz 2002, Di Maggio et al 2001) Just as this response illustrates:

Interviewer: *Is it so that the chatting makes it easier to stay in touch with people you don't see that often?*

Silje[23]: *Actually I usually chat with close friends, often the same ones I saw just an hour before.*

Interviewer: *Why is that, do you think?*

Silje: *I'm not sure. For me MSN is just like talking on the phone, and I wouldn't just ring someone I don't see a lot just to talk.*

By comparing the Internet and instant messaging to a phone conversation, the interviewee demonstrates just how social online chatting is perceived to be. Castells (2001) points towards the Internet as a virtual public sphere and as a communication medium, and compares the Internet with the physical meeting places of pubs and saloons.

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[23] Interview with Silje (18) conducted on May 23rd 2007.

It is evident that young people crave the feeling of being available at all time. The fear of missing out on essential information and being left out of something imperative is often given as a reason for being online at all times. One of the interviewees says that she feels very uncomfortable without the possibility to be reached at all times, accentuating the significance of both the mobile phone and being available online. Only one interviewee mentions that the constant availability is too much of a disruption in her daily life, and takes focus away from other areas of life.

For many families, the Internet represents a new and untouched territory. Some of the interviewees mentioned that their parents would never have Internet access if it were not for them.

Alex[24]:   *My father is really annoyed that he doesn't understand what it is I am doing when I am online. I have tried to explain how some of the sites I visit work, you know like "youtube" and "my space", but he still doesn't get how it works.*

Interviewer: *Why is that do you think?*

Alex: *I don't really know. It is not like he is stupid or anything. He uses it for buying tickets and things, but doesn't get that there is more to the Internet than reading newspapers and buying cinema tickets.*

It would appear that some parents experience the Internet as unfamiliar and confusing and many of them are getting to know this new medium only because their children are spending more and more time using it. An interesting point when looking

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[24] Interview with Alex (20) conducted on May 24th 2007.

at the parents Internet usage, is that they all seem to be doing the same things that they have always done, like reading newspapers, paying their bills, and reserving tickets. For many adults the Internet is a convenient tool for doing the things they *have* to do, and doing them quicker. The Internet serves as a timesaving device. While their children uses it mainly for entertainment purposes. It has become apparent that the Internet is socially interpreted as best suited for the individual user.

The diverging attitudes towards the Internet between parents and their children could result in what has been named a "digital generation gap", where children and young people play a key role in acquiring and understanding the Internet, including having to explain it to their parents. (Livingstone 2003) The parents that invest in the Internet for educational purposes, believe that the Internet would make their children more equipped for school. This deterministic way of thinking that Internet and computer usage will automatically lead to children and young people doing more and better homework, is evident also in educational policy like the Knowledge Promotion.

Although this brief qualitative material cannot claim to be characteristic for the general majority of young Internet users, I believe that it does illustrate an important range of user tendencies and attitudes, and might also imply that there is no inevitable correlation between technology's imminent prospective and user reality. Consequently, obtaining Internet access says little in itself; it is the connection that is developed between the user and the technology, the skills that are generated when using the technology, which makes all the difference.

Some of the interviewees explain that it was only after strong requests from the schools that they had started using the Internet actively. Some of them had even been quite reluctant to ask for Internet access at home, because they saw how much time was spent on using the Internet by other friends and fellow students. It might seem that they had felt compelled by the circumstances, while they otherwise expressed attitudes normally associated with non-use and technology resistance, as this example shows:

Maria[25]:	*At my school some of the teachers put relevant web-pages under the given assignments, that we have to check out. We really have to use the Internet to be able to solve it (the assignment) properly.*

Interviewer:	*Do you not have a computer room with Internet access at your school, so you could check the web-pages given with the assignment?*

Maria:	*Yes… But still, I like doing my homework, at home. So when I told my parents, they got the Internet access at home. But they still use it more than me. I think they thought I would do much more schoolwork once we got access at home. (laughs)*

 The interviewee does admit that having Internet access has some advantages, especially the flexibility it gives in doing your homework at home instead of at school. She still stresses that she avoids using it as far as possible, for other activities than homework. This illustrates how adoption and use is not necessarily equivalent to wholehearted embracing of the Internet technology in itself, but dependent on a certain context. This shows that the concept of Internet use could include some levels of resistance within certain groups of school children that could be afraid that

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[25] Interview with Maria (20), conducted on May 21st 2007.

the fascinating world of cyber space might contribute to a lack of attention to other important areas of life.

My findings suggest that the Internet as a social tool is of greater importance to young people, than the Internet as a knowledge tool. Even though they all were using the Internet for schoolwork, the Internet is still seen mainly as a field of socializing and entertainment. Hence, it might be too straightforward to simply divide between use and non-use, seeing that many people seem to use the Internet simply because they have to, and not because they want to. This could be expressed as a potential gap between heightened expectations and the reality of the "Internet experience" (Wyatt et al. 2002). By emphasizing the importance of using the Internet as a source of information and as a knowledge tool, both parents and the educational system have expressed a deterministic viewpoint believing that all can and will benefit from using the Internet, with no tolerance of movement.

5.3 The Practical Test: The Issue of Skills

The first component of the study involved doing two exercises, where the interviewees show how they would find information about the given subjects, and select one site that they would have considered using for a school project. My aim was to see how they use the Internet to find significant information, and what kind of information they view as "relevant" or "good". In order to understand accessibility as opposed to mere availability, we must consider what factors influence the types of material that people are most likely to retrieve online (Hargittai 2007). Therefore they

all started with a blank homepage and it was up to them to find their way to a search engine of their preference or any other web page where they could find the requested material. The participants were not offered any advice on how to look for content; they had only to rely on their existing knowledge and previous experiences.

All the interviewees were between eighteen to twenty years old and used the Internet on a regular basis, either at school, at home or at the youth centre where the interviews took place. The two assignments the participants got at the beginning of the interview were both related to topics that are on the syllabus during the first years at upper secondary school.[26]

5.3.1 The Question of Critical Thinking

In the first assignment I asked the participant to find an Internet site with information about the topic "World War 2". I asked them to take their time and study the pages in question and then select one that they considered the most relevant for them to use for example in a school project.

Muhammad[27]: *I would definitely google the words World War 2, maybe even in English to get more hits.*

Interviewer: *Why Google?*

Muhammad: *Google is the best search engine there is. They've got the most relevant hits. I don't know what exactly makes them different from lets say Altavista, but they are definitely better. Besides everybody googles…*

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[26]The new national syllabus accoding to The Knowledge Promotion is presented on the Internet: http://skolenettet.no/lkt/TM_UtdProgrFag.aspx?id=36375
[27] Interview with Muhammad (19) conducted on May 21st 2007.

All of the participants chose to use Google as their search engine, and argued that it had better and more relevant hits than other search engines. It seems obvious that the way content is organized on the Internet and users' ability to navigate it; both influence what material is most easily accessible (Hargittai 2007). This was confirmed when all of the interviewees selected the first result produced by the search engine.

What particular search result the participants click on during the practical test is of considerable interest seeing as it signals if they in fact understand the various search engines' features and advertisements. Considering that popular sites always appear first, this results in many young Internet users never looking beyond the first few "hits" offered by the search engine. Therefore the larger Internet pages presented at the top of the list are "always" used. There have been speculations about Google receiving large sums of money to always present certain web-pages like Wikipedia at the top of the result list, but Google have always dismissed such accusations.[28] What I found fascinating was the way all the interviewees behaved like they where googling to get more hits, but it was quite clear that they were all looking for the same webpage; Wikipedia. So, instead of going directly to Wikipedias webpage, they went through Google to find it because they all seemed to know that it would appear among the first few hits.

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[28] http://www.searchenginejournal.com/google-is-wikipedias-sugar-daddy/4422/

Interviewer: *If I asked you to find information about World War 2, how would you then proceed?*

Pedro[29]: *(Writes the address www.google.no in the ….)*

I would google the words World War 2. That is the easiest way.

(Shows me the results of the search)

Interviewer: *So, which one of these web pages would you chose if you had to?*

Pedro: *I would use Wikipedia. I usually use Wikipedia when I look for information about something. It presents a good overview of the topic, and it's written in a language that's easy to understand.*

It is evident that young people are to a large extent influenced by their fellow peers as to what sort of sites are used for distinctive activities. All the interviewees when searching for relevant information concerning World War 2, used the same procedure and hence obtained the same information. Only one participant pointed out a source further down the list, that he would consider using in addition to Wikipedia.[30] The second source that he would consider was also an encyclopaedia, but one published by a well-known Norwegian publishing house.[31] He was also the only interviewee that mentioned the importance of checking the sources of information when using Wikipedia.

Muhammad[32]: *I am always very critical when using Wikipedia. I tend to check the references before using any of the material. Besides I don't see Wikipedia as a very "correct" source of information, it's useful to get an overview.*

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[29] Interview with Pedro (20), conducted on May 21st 2007.
[30] Interview with Muhammad (19), conducted on May 21st 2007.
[31] http://www.snl.no/index.html
[32] Interview with Muhammad (19), conducted on May 21st 2007.

Others were not as critical.

Interviewer:	*Why is it that you use Wikipedia?*
Maria[33]:	*It is well known… All my classmates use it for school projects, and I think the information there is good.*
Interviewer:	*What do you look after before you decide to use the information that's presented?*
Maria:	*I really don't look at anything particular. I have to understand what the information means… But besides that, I don't really look for anything. Of course you have heard stories about Wikipedia, and stuff, but…*
Interviewer:	*What kind of "stuff"?*
Maria:	*You know, things that are written there, that it isn't true… But I have never experienced that.*

It does seem counter-intuitive that with all the information that exists online, all the participants still inquire after the same source of information on the Internet. As Internet has diffused to a large part of the population and has become an important aspect of school education, there seems to be a growing need to look beyond the issue of access towards a more advanced understanding of latent inequalities ingrained in differentiated Internet use. The participants search for information and knowledge shows that there is a need to focus on variation in digital literacy amongst Internet users. Merely having access does not result in informed users. When the participants google, it creates an illusion, also for themselves, that they are participating in a world of knowledge, when in reality they are only relating to the one source being Wikipedia.

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[33] Interview with Maria (20), conducted on May 21st 2007.

Seeing that extracting information was not of any huge difficulty in this task, the focus was rather on the participants' lack of critical thinking when it came to using information retrieved online. None of them except for the one mentioned, made a point out of Wikipedia being an encyclopaedia where everyone can contribute and edit its content.[34] Young people might have technical access, but they still continue to lack effective access in that they do not know how to extract information for their needs from the material available on the Internet (Hargittai 2002).

Another essential aspect that influences what types of content users reach concerns their online abilities to navigate around large amounts of information. Users vary significantly in how well their skills are developed when considering online materials. Those who are more skilled will be more likely to find the types of content of direct relevance to their interest (Hargittai 2007). However, others will be more dependent upon the information presented on easily accessible sites such as big portals like Wikipedia.

5.3.2 Political Presence Online

As the second assignment I asked the participants to find information about The Norwegian Labour Party's environmental policy. This last assignment proved to be harder than the first one. My intention in selecting this assignment was to see what kind of information young people view as relevant. Do they go directly to the source

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[34] http://en.wikipedia.org/wiki/Wikipedia:About

of information, or do they rely on second-hand information? Due to the fact that most of the interviewees are able to vote for the first time in this year's local elections, I found it especially interesting to see if they knew where to find information about a specific political party. As with other Internet related topics, the literature regarding politics on the Internet has progressed through three stages: unjustifiable euphoria, abrupt and equally unjustifiable scepticism, and gradual realization that Internet-based human interaction really does have unique and politically significant assets (Di Maggio et al. 2001). Seeing that the Internet is especially viewed as a medium for the younger generation, it would be likely that they would use it to find information when deciding if and what to vote for. These findings could have important implications when considering the potential effects of the Internet on political participation and its abilities to inform citizens and especially young first time voters, on political issues.

Interviewer: *How would you proceed to find information about The Norwegian Labour Party's environmental policy?*

Kadri[35]: *Well, I would google the words "labour party+environmental politics".*

Interviewer: *Which ones of these web pages would you use to find the relevant information?*

Kadri: *Probably in here… (Shows me a newspaper article published in a major newspaper)[36]*

Interviewer: *Why would you choose this one?*

Kadri: *It is published in a big well-known newspaper, and the ingress refers to both the name of the political party and mentions environmental issues.*

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[35] Interview with Kadri (19), conducted on May 22nd 2007.
[36] Newspaper article "Ny miljøpolitikk?", Dagbladet. Published January 8th 2002, written by Torbjørn Berntsen.

The article chosen by the interviewee was from the year 2002, and was written as contribution to one of the larger tabloid newspapers in Norway.

The article did not say anything about the Labour party's politics but was rather an attack on the Conservative environmental minister at that time.

Quite a few of the interviewees were unable to locate the political party's own website, even when they were not constrained by time, and were not distracted by other people. Instead the participants ended up selecting newspaper articles or finding the Party's local branches' web page instead. This might suggest that young people have problems relating to and little interested in political issues, even those concerning them as young people. Although there are numerous resources on the Internet that contain this type of information, the mere presence of such content will be of little use to enhance political participation if people are not capable of locating their way to such sites (Hargittai 2002). This also shows that basic knowledge regarding society is an important factor to be able to use the Internet as a source of knowledge.

Some of the participants had trouble spelling the name of the political party correctly, hence getting no hits concerning the topic in question and therefore concluded that there was no information to retrieve about the Norwegian Labour Party and their environmental politics. Having basic skills in spelling is therefore essential when using the Internet for retrieving correct information. Accordingly, by concluding that there is no accessible information on the Internet on that specific subject, also suggests that one does not have fundamental knowledge about society either. Being

able to use Internet to find information includes having basic know-how about the Internet and its relation to social institutions, such as all political parties, governmental agencies and so forth are likely to have their own web pages containing relevant information. This kind of basic knowledge is imperative when using the Internet, and definitely establishes that young people use the Internet in a completely different manner than both their parents and policy makers believe them to be doing.

Not being able to use the Internet properly might also result in a less effective participation in political and other societal aspects of life. If young people's digital competence does not evolve it will probably mean that they will be less able to obtain knowledge about government services, and other information seeking like job searching, educational opportunities, health concerns etc. (Hargittai and Shafer 2006). The Internet makes an countless amounts of information available to everyone that uses it, but some people are more competent at finding this information than others. Those with higher abilities are better positioned to profit from the resources the Internet does possess.

Could it be possible that one's Internet abilities and skills are the most important aspect regarding Internet use, given that the material that is posted online also is available to all users if they go straight to the correct Internet address? Once the correct Internet address is entered, the data are accessed and the information is readily available. But how does a user find the particular sites?

Mohammad[37]:   I would start of by googling the name of the political party
                to find the Labour Party's own website.
                (The Labour Party's webpage is showed on top of the list of results)
Interviewer: Well done, and then?
Mohammad: I enter their webpage and search for environmental politics in the
                search field.

By doing the assignment like this he automatically enters the party's platform, and can read exactly what the Labour Party's views are on environmental issues. However, a similar search method that many of the other interviewees performed, was like this:

Maria[38]:   I would google the words Labour party and environmental politics, and from there find one website I could use.

By doing this the interviewees did not have the opportunity that Mohammad had to just enter the party's own website, because it was not listed as an option, at least not on the first few pages of results. Rather it presented the interviewees with hundreds if not thousands of possible links to pages with only one of the two topics. In this particular case, if Maria had known how search queries can be improved through the use of quotation marks or a plus sign between the words to signal proximity of the terms in question, or even to use the word "site:" to find a specific webpage, she would have found the political party's webpage on the top of her search results. A knowledgeable user may type the following into a search box: "miljøpolitikk

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[37] Interview with Mohammad (19), conducted on May 21st 2007.
[38] Interview with Maria (20), conducted on May 21st 2007.

site:www.arbeiderpartiet.no" and quickly find relevant results. Nonetheless, even if the user knows how to do this kind of refined search queries, it still calls for further know-how on the part of the user. Many Internet sites come with numerous images as well as lots of text and in some cases large blinking advertisements, and thus can make it quite challenging to find the particular information they want. Among all the interviewees only one made it to the Norwegian Labour Party's party platform.

Overall, it might be wrong to assume that the mere presence of a large quantity of material on the Internet will result in users accessing a larger range of content. As presented in this chapter there are large numbers of factors that influence what kind of information is most logically within the reach of users, and it seems more important than ever to distinguish between mere availability and accessibility. The findings from this round of interviews suggest that users differ significantly in their online skills. As the above examples illustrate, in addition to being able to navigate their way around cyberspace, the users should also engage in some sort of critical thinking, when it comes to seeing if material online is correct or relevant. The observations presented suggest that the mere presence of content diversity online does not guarantee its ease of accessibility.

5.4 <u>Collective Determinism: To Google or not to Google?</u>

Search engines are some of the most commonly accessed websites online. Millions of people turn to them daily to find information on current events, health concerns, various products, government services or prospective employees. As illustrated by

one and all of the interviewees, Google has become a major part of the digitalized world, and has also part in determining what kind of information we as users locate.

Search engines index the contents of billions of pages – by last reports, Google, claims to index over 8 billion pages – yet they admittedly only cover a fraction of all available content. (Hargittai 2007) Google is today looked upon as the world's most popular search engine.[39] By analyzing the relationships between websites, they claim to be producing better results than other search engines, which essentially ranked results according to the number of times the search term appeared on a page. [40] The tremendous success of Google has produced a new word, "to google" or "googling" as it also has been named. The verb "google" was officially added to the Oxford English Dictionary in 2006, and their definition is as following: "to use the Google search engine to obtain information on the Internet." (Oxford English Dictionary 2006)

There are currently over 50 billion Internet pages available online (Hargittai 2003), to those who know how to access them. Any individual who knows how to create an Internet site can add content to be publicly available on the World Wide Web. Today there is so much available information online, that the problem is actually finding the information most suitable to the users. As this interviewee illustrates:

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[39] As of December 2006, Google was ranked the most used search engine on the web with a 50.8% market share, ahead of Yahoo! (23.6%) and Windows Live Search (8.4%)
http://new.marketwire.com/2.0/rel.jsp?id=726998
[40] (http://www.google.com/corporate/history.html)

Kine[41]:   *The other day, I was googling for some information about a film I was going to see later that same day, and suddenly I ended up on some strange man's homepage, with lots of photos of him in a speedo! And the only reason I ended up there in the first place was because he said in the text beneath the photo that he was told that he looked like Brad Pitt! (laughs) And he sooo did not look like Brad Pitt…*

Saying this the interviewee illustrates the difficulties many people experience navigating around the masses of information. Although there may be numerous high quality sites on the Web, there is no guarantee that anyone will actually find their way to them. As the amount of Web content has grown massively through the last decade, search engines have become progressively more important in filtering through the existing material.

One possible explanation for how the users access content online given the vast amount of resources, is to assume that they are inclined towards their own preferences (Hargittai 2007). As my research results also indicate, it also seems clear that young people are drawn towards websites that they have heard of before, like Wikipedia. It might actually be wrong to assume that content users access is necessarily a reflection of their *own* preference. This is a kind of determinism that is not entirely technological but still, elements of their behaviour are technological determined. However, preference might not be the key factor, both online content organization and digital competence are at work when users browse material on the Internet and these influence what content people are more or less likely to access.

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[41] Interview with Kine (20), conducted on May 24th 2007.

Although search engines could be seen as neutral, they still systematically exclude certain sites in favour of others either by design or by accident (Hargittai 2003). This might suggests that there is a great divergence between what is physically available on the Web and what information is realistically accessible to users. As illustrated by Alex and many of the interviewees, the only reason for using Google is due to the fact that they have never heard about any other search engines:

Interviewer: *Why is it that you always use Google as opposed to other search engines?*

Alex[42]:   *Actually, I talked about that with my friends the other day. It's just, Google is so much more convenient I think. It is easier to see which sites are commercial ones. And the hits I get always seem so much more relevant that other sites. But maybe its just peer pressure really.*

The concern is that search engines like Google are guided by profit motives and will direct people away from the most significant sites in favour of those that have paid the most for a good placement on the results page not considering their quality and relevance to the search query (Hargittai 2007). My rounds of interviews confirmed that most users for the most part rely on the first page of results to a search query. If the users do not possess a progressive know-how and digital competence about how content is organized and presented to them on the Internet, the users become victims in the search for knowledge. They might be excluded from relevant information due to how the content sites decide to feature the information, and by

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[42] Interview with Alex (19), conducted on May 24th 2007

that making it either easily accessible to them or not accessible at all. Sites spend significant resources on optimizing their content to show up as results (Hargittai 2003). Accordingly, inequality exists at the level of content production (Hargittai 2007). Additionally, young people seem to be strongly influenced by their peers and of popular consumption when it comes to websites and what search engines to use. This can contribute to young people becoming victims of a collective determinism that leads to them being withheld from what could be essential knowledge.

5.5 <u>Revisiting Digital Competence</u>

The digital diversity apparent in everyday life is a reality for many children and young people. The Internet is in many ways used to simplify our lives, by shopping online, deliver our tax forms, using an Internet banking system to pay our bills, reading the latest news, downloading music and communicating through emails and different chatting services. A society influenced by information- and communication technology has a responsibility to make sure that digital competence is developed, especially among young people. The amount of information that is available is growing every day, and is only accessible to those who attain digital competence. This makes digital competence an actual social problem that should be challenged at early school level.

The immanent complexity of the knowledge society is that it is constantly changing; replacing existing ideas of what knowledge is relevant or essential. Acquiring digital competence should be closely connected to the development of critical thinking.

Thus, digital competence as a concept is much more accurate and dynamic, than "the ability to use digital tools" as is the new basic skill in the Knowledge Promotion.

Having *digital skills* is essential to become digitally competent. Still digital competence includes other elements of more importance such as the ability to think critically, and to judge whether or not a website is of relevance or not. Digital competence also includes having basic skills such as spelling, and having basic knowledge about important societal issues, such as knowing where one is likely to find important information about the Norwegian labour party's environmental policies. The government's focus on digital tools as part of the education, aims to move the educational system into the twenty-first century. Still, a fundamental aspect seems to be missing. One does not become digitally competent by using computers and the Internet on its own. As mentioned earlier in this thesis, this has to be taught. For the pupils to fully benefit from using laptops and having broadband access, they need to know *how* to find the relevant information, *where* to find it, and they need to know how to *evaluate* the masses of information that exists. To make pupils digitally competent, the policy makers will have to change the initial focus, from *digital tools* as a basic skill to *digital competence* as a basic skill. I believe that digital competence should be the *core skill* in the educational system today. Digital competence means learning to understand and both to adapt to and act in a world that is constantly changing.

The Knowledge Promotion presents a rather one-sided view of the potential of digital tools in education. It has become clear that the actual politics in itself is deterministic

in assuming that there are simple technological fixes to complex social problems (Henwood et al. 2000). My findings suggest that the reality is not that straightforward and I will here attempt to demonstrate the two main reasons for how and why I believe it not to be.

5.5.1 Suggesting a Generational Gap

Today's youth have grown up with the Internet as a core element of society, and many of them have much more Internet know-how than their parents. There seems to be a tendency to believe that a computer is in itself an investment in their children's future. Several parents seem to be under the impression that the computer is a tool that helps make their children more academically competent, and even might stimulate them to do more homework. As presented earlier in this thesis, this seems not to be the case. It is evident that the interviewees are all competent Internet users for their type of usage; communication and entertainment, and other Web 2.0 related activities. Still, there seems to be a major inconsistency between perceived usage and actual usage. Adults tend to see Internet usage as being one unified thing, while young people see the Internet as being multiple possibilities. For young people the Internet and computes are a leisure activity, while adults tend to see it as work related. This illustrates the interpretive flexibility of the technology. Still, the technology in itself is able to accommodate both interpretations simultaneously.

The Internet is still a relatively new supplement to the social scene, and though

people are definitely adapting to its presence, the meanings attached to using it, understanding how the technology works, and understanding the different concepts of it, is still a challenge for many adults. The so-called digital generation has been able to use the Internet more or less since they were young children, and has to some extent been brought up with having the opportunity to use Internet as a helpful tool in everyday life. Having this access and availability has clearly influenced the way that young people look at the concept and combination of ICT's and the Internet.

The interviewees often described attitudes in connection with the Internet that illustrate the fact that their generation is more digitalized than the previous generations. Several interviewees used concepts, which established that they did not differentiate between using the Internet and using the computer for different activities.

Interviewer: *Can you remember when you started using the Internet?*
Maria[43]: *I started using the Internet when I started lower secondary school.*
Interviewer: *What did you use it (the Internet) for?*
Maria: *Our teacher told us that all our papers and essays had to be machine written so then I had to start using the Internet.*
Interviewer: *So you used the Internet to get information for these papers?*
Maria: *No, then I mainly used it for writing.*

The interviewees used concepts concerning the Internet when talking about using word processing software for homework. Seeing this, could suggest a generational change in the idea of computers and Internet as being one unified system. Could it

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[43] Interview with Maria (20), conducted on May 21st 2007.

be that Internet access today is so ubiquitous that it is no longer viewed as an act in it self to go online, it is just an integrated part of using a computer? For young people, the Internet has turned into a sort of *habitus* (Bourdieu 1984). The mere act in itself has become internalized in our behaviour through a process of socialization. This can possibly be illustrating a generational change of concepts regarding the Internet and the computer as now being a unified entity.

This generational gap has become quite obvious throughout the research material, and has revealed many layers of misconceptions based on diverging generational understandings of concepts such as computers and the Internet. Many parents seems to have different perceptions of what using the Internet consists of, from those of their children, and this misunderstanding is generally based on the fact that the two generations use the Internet for different reasons. Many children and young people see the computer as purely entertaining, while their parents use it to access knowledge, and as a tool that simplifies their lives. This misconception is based on the fact that parents and adults in general have experienced a life without the Internet, and many have come to recognize how this technological device in many ways makes life a little bit easier. This generational gap has accordingly resulted in an *Internet as a tool* versus *Internet as habitus*, situation.

This gap can help to explain why the idea of the Knowledge Promotion, and the actual and perceived practices of the reform diverge. In many ways it seems obvious that parents might believe their children to be more digitally competent than they are in practice. This could be due to the assumption that merely "giving" children and

young people availability and access, provides them with digital competence. I believe to have illustrated how and why that is not the case.

The politicians and policy makers behind the Knowledge Promotion appear to believe that digital competence is something that will automatically appear when using the Internet and computers. Thus, young people might be many times more capable of practical things related to computers and Internet, but that does not necessarily mean that they know how to find information and also judge whether or not that information is relevant. As was evident during the practical test with the interviewees, the ability to spot the difference between "relevant" and "irrelevant" information online has not been taught. Being able to use the Internet and computer as a tool during school hours implies that one needs the skills necessary to concentrate on the subject being taught and not on the tool itself.

In this section I have argued that not realizing the importance of digital competence could possibly be the element missing from the Knowledge promotion. The idea of people automatically becoming digitally competent just by using the computer is a strongly deterministic idea. The inherent belief is that simply introducing computers to all the pupils will in itself lead to educational change, seeing as the pupils will become more inspired, and lastly this will lead to social change.

5.5.2 <u>Re-interpreting the Digital Divide: Is Usage Really Enough?</u>

Since the commercial introduction of the Internet, research regarding the technology has tended to centre on a global or a local digital divide. It seems important to consider *more* than mere access when studying the differential spread of the Internet. Effective access to the Internet means a great deal more than simply having a network-connected machine within reach. Rather it includes the ability to use the Internet in an effective manner and essentially benefiting from using the tool. Also it seems vital to include other aspects into the research agenda to better analyse the differences *between* Internet users. These viewpoints are also argued by both Hargittai (2002) and Wyatt (2002) et al.

Hargittai has suggested the occurrence of a new *second-level digital divide* (2002), where skills and the ability to find information online serve as indicators of a new digital divide. By exploring the differences in how people use the Internet for information retrieval, it will be possible to discern if there is a second-level digital divide (Hargittai 2002). Through documenting the differences in people's Internet use and skills she distinguishes between how different kinds of people are able to take advantage of the medium in different ways (Hargittai 2002: 3). Hargittai argues that in this day and age we must move past the issue of access and look at the issue of skills when actually using the Internet as a tool (Hargittai 2002).

Wyatt et al. (2002) also argues that looking at access is not enough when studying a digital divide. She points towards studying Internet rejection, non-use and drop-outs, in addition to studying mere access. Several people choose not to use the Internet

due to issues such as economy, it is time consuming, and because of *disappointment with the Internet experience* (Ibid). Wyatt argues that many people choose for them selves not to use a specific technology and should not be considered as a part of a *divide*. However, I see both Hargittai and Wyatt's arguments as being to narrow and thus suggest the need for a re-interpretation of the concept digital divide.

I have consistently trough this thesis argued that access is no longer the key element in the digital divide. Wyatt et al. (2002) have argued that the focus on access is not *extensive* enough, by not considering non-use and technological resistance. Still, I would also argue that Wyatt's concept of usage is too limited as she focuses on *who* uses the Internet and for what reasons; my argument is that it is of more importance to study *how* people use the Internet, and to see if this could constitute a digital divide. My findings established that access might not be the central issue any more seeing as all the interviewees used the Internet on a regular basis. What constituted a digital divide was the major difference between the ones showing competence when using the Internet, and the ones who did not know how to use the Internet for more that entertainment purposes. This comprises a problem when considering the introduction of the Knowledge Promotion, and laptops as an educational tool.

I also would argue that Hargittai's concept of *skills* is too narrow when considering it in relation to young people and education. While skills, only considers the mere ability to use the Internet as a tool, digital competence considers a broader spectre of essential elements. Digital competence should contain more that just the mere

ability to use the tool. It should also include the ability to think critically, to consider ones findings with an analytical eye, and it presupposes knowledge about the social conditions and institutions. In addition to this, to become digitally competent one must know how to spell properly. My findings suggest that because many of the participants did not know how to spell correctly, they did not manage to find the material in question. Digital competence builds on the ability to use both skills and knowledge to assess and interpret different contexts, meaning that this kind of competence is more extensive than just skills as Hargittai (2002) suggested. Seeing this it became clear that the concept of skills is to narrow, and instead I propose an increased focus on digital competence, which can not be seen as distinct from other skills and competencies acquired in the educational system.

In this section I have argued a need for an increased focus on digital competence with the introduction of the Knowledge Promotion. As my findings show, merely providing computers and access does not automatically lead to more digitally competent young people. Being able to navigate around the masses of information that exist on the Internet demands some knowledge about how to use search engines properly, how to see if a website provides relevant information or not, and last but not least it demands literacy, knowledge and critical thinking.

I have tried to show one reason why I think policy makers and politicians have not taken into consideration this rather important element; the generational gap. It seems clear that adults and parents do not totally understand what their children and other young people do when they use the Internet, therefore they assume that their

children use it in the same manner as they do, as a distinct tool, and with the same level of critical thinking. I am not trying to underestimate young people's intelligence, but merely suggesting that when it comes to new technology and the Internet the ability to use the tool constructively and critically has to be taught. Nonetheless, I believe children and young people to fully understand the resource the Internet can be, but that they merely need a slight push in the right direction when it comes to using it as a knowledge tool as a part of the education. This push should be administrated by the department of education and put into action by the school systems.

Lastly I have argued the need for a re-interpretation of both Hargittai's and Wyatt's concepts of a digital divide. Seeing as access might no longer represent the only issue when it comes to the Internet, I have suggested a need to move the focus from digital skills to digital competence and from *who* uses the Internet to *how* they use the Internet. By shifting the focus I believe we would see the most important divide in this day and age, being a divide in Knowledge. This concept of knowledge includes several elements from the levels of education, knowledge concerning politics and policy issues, and knowledge in how to access knowledge, consequently confirming that technological change is indeed not a linearly process.

Chapter 6 – Final remarks:

A Tentative Conclusion and Thoughts for the Future

In the light of the newly introduced educational reform, I have attempted to demonstrate diversity in young people's perceived and actual Internet usage. I have examined the constraints and dynamics present in the reform through in-depth interviews and practical tests done by thirteen young people. My intention was to examine the way young people use the Internet, by studying their normal everyday usage and comparing it to the apparent expectations in usage expressed by parents, teachers, policy makers and politicians.

Due to the restricted amount of time to be had on this thesis, my findings are by no means exhaustive. Interviewing young people presents quite a few challenges and the most important one was convincing them to participate purely in the name of research. There can have been several reasons for this and one reason was probably that the interviews where at the same time period as their final exams. Therefore it proved to be enormously challenging to go through the school system to get interviewees. In the end I had to rely on Red Cross youth centres to be able to get young people to participate. Seeing as there are certain groups of people visiting these youth centres, the interviewees might not have been as evenly distributed as wanted. The facilities available in the youth centres could also have influenced the

findings and made it that much harder on the interviewees during the practical assignment. It is also possible that my conversational way of interviewing has affected the outcome.

Still, my intention was never to speak on behalf the entire younger generation and my thesis is in no way conclusive. I merely wanted to suggest the need for a different focus in the Knowledge Promotion.

6.1 Questioning The Potential of Digitalized Education

Seeing as we have entered a society of knowledge and information, the focus on education must necessarily be intensified. Despite the burgeoning literature on information and communication technology on the one side and educational discourse on the other, there is not much literature considering the effects on each other. Since the uptake of ICTs could very well be the most influential change in our education systems in decades, a transformation that is going to determine not only the form of the education system but also the nature of education, lack of discourse could prove to be in some way damaging for the next generations.

My aim has been to try to look at the introduction of the Knowledge Promotion by uniting those two separate disciplines, and doing so from the pupils point of view. The educational reform, *the Knowledge Promotion*, was the first reform since 1997, and much has happened in those ten years, especially in the field of ICTs. By focusing on digital tools as a part of the education, politicians and policy makers

moved the educational system in to the twenty-first century, and fully acknowledge the presence of the knowledge society. Seeing as information and communication technologies have often been viewed as a tool for the younger generations, the government signalized by focusing on digital tools, that they were trying to make a reform on young peoples' premises. Consequently, the introduction of the Knowledge Promotion might not be as straightforward as first intended.

The results from the interviews conducted show that young people mainly use the computer and the Internet as source of communication and entertainment, as habitus rather than tool. Through the Internet and instant messaging services they play out their social lives, moving in and out of private and public sphere as they please. This constant movement indicates that it is socially shaped in the sense that it is the result of an ongoing dynamic interaction between the different users and the technology. Throughout this process they influence each other in how acceptable Internet behaviour should be conducted, and the symbolic identities they attach to each other through their Internet practices are constantly negotiated. Rather than finding clearly defined, relevant social groups, my suggestion is that the young people participating in this negotiation are influenced by their own individual interpretations depending on personal education and character and also parental influences, that overshadow social categories such as gender, ethnicity and social background.

Young people's type of usage indicate a intricate web of social interaction and technology closely woven together, suggesting an Internet behaviour *not* influenced

first and foremost by the information society's demand for knowledge. Several of them failing to locate the relevant information asked for in the practical test also illustrated this, even though they are experienced Internet users.

To recapitulate, I have suggested that the Knowledge Promotion is in fact deterministic in its approach, believing that merely providing the digital tools will automatically lead to major changes in the educational system. Therefore I have in this thesis suggested a re-interpretation of the concept digital divide. Even though there is no notable divide in access present in Norway today, my findings does support that the digitalizing of the educational system could potentially lead to a competence divide.

6.2 <u>Final Thoughts</u>

My intention was never to slate the Knowledge Promotion, but to show how I believe young people actually use and view the Internet, and to illustrate that this type of usage might not correspond with the visions of the policymakers. Accordingly, I have not tried to assess Internet technology in terms of good or bad, or relevant or irrelevant in relation to education. Rather I have attempted to demonstrate that it entails ambiguous qualities, and that its potential is contingent on time, place, context and the flexible interpretation of the users.

Whether we like it or not, computers and Internet technology are a part of our lives and are unlikely to become irrelevant in the future. The rate of technological change

will hardly slow down, more likely, it will continue to accelerate. However, the technological development has not yet reached closure, and we are all part of the social and cultural environment it originates from. Therefore it is of crucial importance for us to maintain a critical sense of reflection and acknowledge the possibility that digitalizing the educational system might not be as straightforward as might have been expected, and that the use of the technology might not translate to usefulness. Through writing this thesis I hoped to contribute a new perspective to this debate on one of the largest changes of the educational system ever.

Appendix A

List of interviewees

Pedro 20 years old

21st of May 2007

Charlotte 18 year old

23rd of May 2007

Maria 20 years old

21st of May 2007

Geir 20 years old

23rd of May 2007

Håkon 20 years old

21st of May 2007

Aron 19 years old

23rd of May 2007

Muhammad 19 years old

21st of May 2007

Silje 18 years old

23rd of May 2007

Maida 19 years old

22nd of May 2007

Kine 19 years old

24th of May 2007

Kadri 19 years old

22nd of May 2007

Alex 19 years old

24th of May 2007

Chris 19 years old

22nd of May 2007

Appendix B

<u>Keywords for talk with young people regarding their Internet usage:</u>

<u>Practical test:</u>

- If you were to search for information regarding World War 2, how would you proceed?
- If you were to search for information regarding The Norwegian Labour Party's environmental policy, how would you then proceed?
- What do you look for when you are searching for information on the Internet?

For example:

- Who is administering the website?
- Content?
- Language?
- Target groups?
- Pictures?
- Layout?

<u>The participants' background:</u>

- Grade
- Course of study
- Age
- Parents education and type of work
- Ethnicity

- o Can you take me through what you usually do when you go online?

<u>Internet usage:</u>

- When did you last use the Internet?
- What did you use the Internet for?
- What do you spend most time on, when you are on the Internet?
- Can you remember how old you were when you first started to use the Internet?
- What is the first thing you do when you log on to the Internet?
- Can you tell me about a time when you used the Internet for information retrieval?
- Can you tell me how you proceeded?
- Has anyone at home or at school taught you how to use the Internet?
- Do you know of any good websites for information relevant for schoolwork?
- Do you trust all the information you find online? How do you decide if it is believable or not?

<u>Other activities online:</u>

- How do you stay in touch with your friends using the Internet?
- What is your favourite thing to do online?
- Do you read newspapers on the Internet? Which ones?

<u>Bookmarks:</u>

- Can you remember if you have added any bookmarks to the computer you use?
- Can you remember which bookmarks?
- Does your bookmarks say anything about how you use the Internet?
- Does your bookmarks say anything about you?

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