Berkeley, Blindern & Bourdieu

A cross cultural study of students ICT use, seen in the light of Bourdieu's concept of habitus

Hilde Kvmme Titlestad
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Universitetet i Oslo
Det samfunnsvitenskapelige fakultet
Institutt for sosiologi og samfunnsgeografi
I would like to dedicate this thesis
to my grandfather Jacob,
who very bravely at the age of 90
bought his first computer.
Abstract

The field of WEB and internet sociology is a relative young field offering a variety of new and interesting phenomena to explore. This study is about how students at the university of Blindern and the university of Berkeley deal with Information and Communication Technology, in their everyday lives as students. I used an exploratory approach, interviewing seven students of sociology at each university. As a theoretical framework I choose to use Bourdieu's habitus concept in analysing the data. I also constructed ideal types to illustrate the process of developing an ICT habitus. I labelled the ideal types "pre ICT habitus" and "fully developed ICT habitus". It being a cross cultural study I also compared the two groups of students' development, looking at differences in their surroundings (the universities themselves) and also constructed ideal types concerning the universities and their ability to nurture an ICT habitus development among its students.

Based on my findings I constructed a three-step model of the development of an ICT habitus:

1. Learning how to push the buttons.
2. Learning how to do something useful with the technology.
3. Advanced use of the technology.

I also found that each of this three steps had its own corresponding stage on the path towards a fully developed ICT habitus, these were as follows:

1. The initiation – the first encounter with the technology, where one learns how to push the buttons.
2. Trial and error – the stage where one learns to do something useful with ICT trough trial and error.
3. Almost there – the last stage where motivation and pressure to learn battles the fear of the unknown. One has already learnt to use the technology in an advanced way, but has yet to internalise the use.
Going through each of these stages, comparing the two groups of student, I also examined the influence of ICT capital, adapting Bourdieu's concept of capital as well. At the first stage I examine how the subjects first encountered the technology, either as a child at home, at school or at the university. I also examined the influence of ICT capital on the initiation, finding that my Berkeley subjects on average did encounter the technology earlier then my Blindern subjects, but that this was not as important as I first assumed. At the second stage I explored how they started using the technology in a purposeful way, learning to use it through trial and error, and the effect this had on their ICT habitus development. At this stage the ICT capital comes in the form of support from the surroundings. At the last stage I examine how far along the path the two groups of students are, and what level of use they have reached.

The two most influential types of ICT capital I found were that of coercion and motivation. Since the students relationship with ICT played an important role in this equation, I also explored this more thoroughly. I found that the students could be divided into four groups when it came to their relationship with ICT: "not really interested", "ambivalent", "tool oriented" and "happy".

The Berkeley students turned out to be closer to a fully developed ICT habitus than the Blindern students, but this was because they on average started using ICT on a regular basis earlier than the Blindern students, not as I first assumed because they encountered the technology earlier on. The reason why they started using it regularly at an earlier stage seemed to be a higher level of coercion from their surroundings, forcing them to use the technology and thus speeding up the process of developing an ICT habitus. A positive relationship with the technology seemed to affect the motivation to learn and thus also contributed to the development of an ICT habitus.
Foreword

The first time I encountered a personal computer was the fall of 1983. My dad had bought and brought home a Sinclair Spectrum\(^1\). I was 9 years at the time and thought it was great fun. The computer itself was rectangular about 20cm x 15cm and about 3-4cm thick. It was hooked up to the television, and the programs were loaded with a tape recorder. After the Sinclair Spectrum followed several PC each new more advanced than the previous. The next milestone was when my dad brought home a software called “menu”. It allowed us to choose a number form the menu (1-9) and then we were brought directly to the program the number represented, without having to type commandos in DOS. My sister and I thought it was absolutely amazing.

In 1997 I started studying at Blindern having reached the final stage of my education, ‘hovedfag’ in sociology. I soon discovered that there was a theory class labelled “WEB Sociology” and I was instantly intrigued. I went to the information lecture where the lecturers presented the various specialisation classes, and from then on I knew that this was the field I wanted to write my thesis on.

The writing of this thesis did for various reason become a much longer journey than I had anticipated at the outset. I have had a lot of support and encouragement from family and friends along the way, and would like to thank them all for this. Some of them I would like to thank in particular and these are as follows:

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Pernille Fredriksen, my best friend, for being in the same boat and making the trip more enjoyable.

\(^1\) http://www.old-computers.com/museum/computer.asp?st=18c:223
Trond Pedersen who although he came in at the last stage of the journey helped me carrying the burden trough the last excruciating stretches of the dessert, never losing his patient with me.

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And last, but not the least I would like to thank my closest family whose support in every way has gone far beyond the call of duty. I would therefore especially like to thank:

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Oslo, September 2004

Hilde Kvmme Titlestad
# Table of Contents

ABSTRACT .......................................................................................................................... 3  
FOREWORD ....................................................................................................................... 5  
TABLE OF CONTENTS .................................................................................................... 7  
TABLE OF TABLES AND FIGURES ................................................................................ 9  
1 INTRODUCTION ........................................................................................................ 10  
  1.1 THE FIELD ............................................................................................................. 10  
  1.2 HYPOTHESES ........................................................................................................ 12  
2 THEORY ....................................................................................................................... 14  
  2.1 THEORETICAL AND HISTORICAL CONTEXT .................................................... 14  
  2.2 THEORETICAL OVERVIEW .................................................................................. 16  
    2.2.1 Bourdieu’s Concept of Field ....................................................................... 16  
    2.2.2 Bourdieu’s Concept of Habitus ................................................................. 17  
    2.2.3 Bourdieu’s Concept of Capital ................................................................. 19  
  2.3 IDEAL TYPES .......................................................................................................... 20  
  2.4 STUDYING ICT ....................................................................................................... 22  
    2.4.1 Computer literacy ....................................................................................... 22  
    2.4.2 Domestication ............................................................................................ 25  
3 METHOD ..................................................................................................................... 27  
  3.1 CHOICE OF METHOD .......................................................................................... 27  
  3.2 CROSS CULTURAL STUDIES ......................................................................... 29  
  3.3 SUBJECTS ............................................................................................................ 30  
    3.3.1 How did I choose them? ............................................................................ 30  
    3.3.2 Who are they? ............................................................................................. 32  
  3.4 COMMENT ON SAMPLE .................................................................................... 32  
  3.5 MY ROLE ............................................................................................................... 33  
  3.6 THE INTERVIEWS ............................................................................................... 34  
    3.6.1 The Interview Guide ................................................................................. 34  
    3.6.2 Conducting the interviews ........................................................................ 35  
    3.6.3 Reflections, strengths and weaknesses ................................................... 36  
  3.7 PROCESSING THE DATA .................................................................................. 38  
4 METHODOLOGY ....................................................................................................... 41  
  4.1 ICT HABITUS ........................................................................................................ 41  
  4.2 ICT CAPITAL ....................................................................................................... 45  
    4.2.1 Background ................................................................................................. 47  
    4.2.2 Resources .................................................................................................... 47  
    4.2.3 Surroundings .............................................................................................. 47  
    4.2.4 Motivation ................................................................................................. 49
Table of Tables and Figures

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 3.1</td>
<td>THE SUBJECTS</td>
<td>39</td>
</tr>
<tr>
<td>Table 3.2</td>
<td>THE NORWEGIAN SCHOOL SYSTEM</td>
<td>40</td>
</tr>
<tr>
<td>Table 3.3</td>
<td>THE US SCHOOL SYSTEM</td>
<td>40</td>
</tr>
<tr>
<td>Table 3.4</td>
<td>ADAPTATION</td>
<td>40</td>
</tr>
<tr>
<td>Figure 4.1</td>
<td>NEMI COMIC STRIP</td>
<td>42</td>
</tr>
<tr>
<td>Table 4.1</td>
<td>HABITUS IDEAL TYPES</td>
<td>43</td>
</tr>
<tr>
<td>Table 4.2</td>
<td>TYPES AND AMOUNTS OF ICT CAPITAL</td>
<td>46</td>
</tr>
<tr>
<td>Table 4.3</td>
<td>UNIVERSITY IDEAL TYPES</td>
<td>48</td>
</tr>
<tr>
<td>Figure 4.2</td>
<td>THE DEVELOPMENT OF AN ICT HABITUS</td>
<td>50</td>
</tr>
<tr>
<td>Table 4.4</td>
<td>ADVANCED USE OF THE TECHNOLOGY</td>
<td>51</td>
</tr>
<tr>
<td>Figure 7.1</td>
<td>THE SUBJECTS' PROGRESS TOWARDS A FULLY DEVELOPED ICT HABITUS</td>
<td>109</td>
</tr>
<tr>
<td>Figure 8.1</td>
<td>A POSITIVE RELATIONSHIP'S INFLUENCE ON ICT HABITUS DEVELOPMENT</td>
<td>113</td>
</tr>
<tr>
<td>Figure 8.2</td>
<td>A NEGATIVE RELATIONSHIP'S INFLUENCE ON ICT HABITUS DEVELOPMENT</td>
<td>114</td>
</tr>
<tr>
<td>Figure 8.3</td>
<td>ROGERS' MODEL OF HOW INNOVATORS GAIN GROUND WITHIN A SOCIAL SYSTEM</td>
<td>115</td>
</tr>
<tr>
<td>Figure 8.4</td>
<td>COERCION'S INFLUENCE ON RELATIONSHIP</td>
<td>117</td>
</tr>
<tr>
<td>Figure 8.5</td>
<td>SUMMARY</td>
<td>136</td>
</tr>
<tr>
<td>Figure 9.1</td>
<td>STEPS AND STAGES IN DEVELOPING AN ICT HABITUS</td>
<td>139</td>
</tr>
</tbody>
</table>

List of Attachments

Attachment-1.......................................................... Text of pamphlets
Attachment-2.......................................................... Interview guide
Attachment-3.......................................................... Interview guide
1 Introduction

1.1 The field

The field of web and internet sociology offers a variety of new and interesting phenomena to study, as it is a relatively young field that has developed alongside the development of the information and communication technologies. This technology started out in the mid 80s by being called IT; Information Technology, then in the mid 90s it developed into ICT; Information and Communication Technology, and within the 5th Research and Development Framework Programme of the European Union, one has since 1998 referred to it as IST; Information Society Technology\textsuperscript{2}. While in the US, one has spoken about the "Information Super Highway"\textsuperscript{3}.

The field of internet sociology presents an assortment of theories, on how individuals and society at large deal with ICT, often changing at the same rate as the technology itself. There is little doubt that ICT has had an impact on our everyday lives. It has entered the educational system, the working arena, the home and it has even influenced the way we talk. In recent years there has been a growing demand for analyses on how users relate to this new technology, from its impact on society itself down to the interaction between individual and technology in everyday life. A lot of research covering these areas has come out, but due to the ever-changing nature of the ICT there is always new elements entering the arena, changing the scenery. Based on my interest for the field and there being such large patches of unexplored territory on the Information Society map, I decided this was the field I wanted as the setting for my thesis.

The primary challenge was to select a target group within my chosen field. Pondering this challenge it occurred to me that my own generation, a generation generally referred to as "Generation X", are the ones who have, almost but not quite, grown up in the Computer

\textsuperscript{2} http://www.cordis.lu/ist/directorate_e/digicult/glossary.htm#GlossaryI
IST: Information Society Technologies (Programme) provides a single and integrated approach to the convergence of information processing, communications and media technologies. The IST Programme was a major theme of research and technological development within the European Union's Fifth RTD Framework Programme (1998-2002). The IST Programme is the major means of achieving the European Research Area under the Sixth Framework Programme (2002-2006).

\textsuperscript{3} The concept of "Information Super-Highway was introduced by Vice-President Al Gore in 1993 (Cockfield et al., 1995:vi)
Age. We have seen the dawn of the information society. We have seen the development of the computer from the early machines that went "bing" to the advanced machines we use today in our everyday lives. The average car produced today encompasses more computer technology than Apollo-11 that first put man on the moon.

It therefore seemed interesting to explore how this group relates to the Information and Communication Technology. Given that a large part of my generation were to be found at the same stage that I myself was at this point, turning to my peers seemed the most natural thing to do. This is the reason for choosing graduate students of sociology as subjects for my research. Having decided on the field which would form the foundation of my thesis, and the subjects for my interviews there was however yet another aspect to take into consideration.

A lot of research coming out in latter years has focused on globalisation, and authors like Sherry Turkle and Nicolas Negroponte have argued that the new technology will remove the limitations of geography. Since my goal was to within the limitations of my thesis try to form a relatively complete picture of how students used and related to ICT, I decided it would have to be a cross cultural study. I wanted to compare Blindern, Oslo as this was the culture I belonged to, and Berkeley, California as this in a way is the area where ICT first saw the light of day. By including the cross cultural perspective I hoped in a small way to touch upon the issue of globalisation. My goal was fairly ambitious, and it resulted in a rather exploratory interview guide. Although the cross cultural perspective in my opinion, turned out well, the discussion on globalisation as it turned out, fell outside the limitations of my thesis, and was therefore not included after all.

My main objective was to look at whether students felt at ease with the technology and how this affected their feelings of control and empowerment or lack thereof in relation to the ICT. As a measure of students' ICT use, I decided to look at their use of internet, e-mail and the computer as a tool with emphasis on word processing.
1.2 Hypotheses

Bourdieu's theory on habitus deals with how we make sense of the world surrounding us in our everyday lives. Habitus is what we fall back on when the world becomes chaotic and incomprehensible to us. Using the theory of Bourdieu to analyse my subjects use of, and relationship with the technology therefore seemed sensible, since the ICT was a relatively new element introduced into their lives.

My hypothesis was that they before encountering the technology would have no cognitive structures to deal with it. However, in the process of using the technology after the first encounter, they would start developing these kinds of structures. In other words, I assumed they would start out with a pre ICT habitus and then bit by bit develop an ICT habitus in order to make the technology an integrated part of their world.

What I wanted to find out was how far along they were in this process of developing an ICT habitus, and which factors helped, hindered or in any way influenced this process.

Since USA was an early actor in the ICT field, especially the northern California area, I also had a hypothesis that the Berkeley students would be further along in developing an ICT habitus, as they would have encountered the technology earlier, and thus gained a head start on the process.

**Summarised my hypotheses were as follows:**

1. My subjects started out with a pre ICT habitus and as they first encountered the technology and started using it they also started developing an ICT habitus to deal with the technology.

2. My Berkeley subjects would be further along in developing an ICT habitus as they probably encountered the technology at an earlier stage than my Blindern subjects.

These were the hypotheses I started out with, and in the following chapters of this thesis I will explore how my findings actually fit this picture.

I will start out by presenting the theory I will use in my analysis of the findings. Then I will proceed to give a description of how I gathered the data material for the thesis. In
chapter four I will present my adaptation of Bourdieu’s theory of habitus that I then will use in the following chapters to analyse the empirical data. I will round of the thesis discussing factors influencing the development of an ICT habitus among my subjects, presenting some additional empirical findings to support my theories. Finally I will summarize my findings and look at what future studies could contribute in exploring the field of internet sociology.
2 Theory
In order to understand the potential applicability of Bourdieu's theories to the study of students' use of and relationship with ICT, it is necessary to first understand the constructs underlying the theories. It is also important to remember that Bourdieu, like everyone else, does not exist in a vacuum. I will therefore start out by trying to place Bourdieu's theoretical approach in context by reviewing how some other theorist have dealt with similar issues. After that I will give a theoretical overview of those of Bourdieu's constructs I intend on using later on when analysing my findings. As I also plan on utilising the construction of ideal types to illustrate my findings, I will briefly go into this aspect of the theoretical framework. Since I am operating within a relatively new field where a lot is happening I will round off this chapter by looking briefly into some of the other things that have been done in the field of studying ICT.

2.1 Theoretical and Historical Context
Placing Bourdieu in a theoretical and historical context illustrates how sociological theorists like everyone else influence and are influenced by others. Since this is just intended to illustrate the point that Bourdieu does not exists in a vacuum I have selected three other theorists of which I will give a short introduction in order to make the comparison. These three are Husserl, Parsons and Giddens.

Edmund Husserl (1859-1938)
Husserl is the founder of the modern phenomenology. He introduces the concept of 'lifeworld', which can be described as the concrete, perceptible reality in which one spends one's everyday life, and takes for granted in all of one's activities. In this way lifeworld constitutes a presupposition for all empirical theory and all scientific activity. Husserl argues that a science that has lost the connection to the lifeworld rapidly looses its meaning to ordinary people. It will alienate rather than increase understanding (Bengtsson, 2001: 19-48). Bourdieu like Husserl wishes through his theory to dissolve
the dualism between theory and practise. He is of the opinion that the distinctiveness of sociology is its position in the force field between practise and reflection. Utilisation

**Talcott Parsons (1902-1979)**

Parsons' functionalistic theory presents a social system that tends towards maintaining a relatively stabile equilibrium. The two most fundamental processes in the maintaining of a system's equilibrium are in his opinion allocation and integration. Allocation consists of the processes which maintain a distribution of components in accordance with the state of equilibrium. Integration includes the processes where the relations to the surroundings are regulated in such a way that the inner parameters and the borders of the system as a whole are maintained, despite changes in the surroundings (Zeuner, 1998:25-26). The term 'integration' should not in any way be regarded as synonymous with "assimilation" or "identification". Individuals whose action is governed by a set of institutional norms cannot be treated as though they were joined together by emotional ties or shared objectives (Bourricaud, 1984:50).

Despite Bourdieu not being a functionalist there are similarities between Parsons' concept of integration and Bourdieu's concept of habitus. Both deals with how individuals adjust and handle changes in the social system they are a part of.

**Anthony Giddens (1938)**

Also Giddens occupies himself with the problems of integration in his theoretical works. In Giddens' theories the concept of integration and the differentiation between social integration and system integration, acts in connection with and as one of many elements in his main theoretical project: the theory of structuralism. The primary objective of this project is to span the traditional dualism between actor and structure. The relationship between individual and society, between actor and structure must not be viewed as a dualism. The constitution of actor and structure is not two independent phenomena, but represents a so-called duality where the human actions at the same time impose structure on, and are structured by society. Like Bourdieu, Giddens tries through his theoretical work to go beyond the dualism between the fundamental categories to establish theory syntheses.

I will now proceed to look at Bourdieu's contribution in this respect.
2.2. Theoretical Overview

According to Harvard's Dennis Shirley, Bourdieu's central contribution to sociological theory is his attempt to find a middle ground between individual agency and structural determinacy. Central to that middle ground is his concept of human habitus (Shirley as cited by John H. Scahill, 1993). On University of Canterbury's online "Glossary of Sociological terms" "Habitus" is defined as:

"Pierre Bourdieu's term for the everyday habitual practices and assumptions of a particular social environment. People are at once the product of, and the creators of, their habitus." (Bilton et al., 1996).

In this section I will try to give an outline of Bourdieu's concept of habitus. As the concept of habitus and field, in Bourdieu's theory, are relative concepts, gaining meaning and contents by virtue of each other, it is as impossible to describe the field without the actions of the actors, as it is to envision the actors without the context within to act. I will therefore start by giving a short account of Bourdieu's concept of field, moving on to the concept of habitus and then sketching briefly his concept of capital, which is also closely linked to the concepts of field and habitus.

2.2.1 Bourdieu's Concept of Field

According to Bourdieu, today's modern society often appears as a register of relatively autonomous sectors, areas or arenas each with its own particular mode of operation. These are various and different fields each with its particular code in form of values and rules of engagement. Each field (work, education, sports, art etc.) constitutes a social space encompassing dominance and control, reproduction of established norms and production of new ones. It encompasses different and opposing forces deciding the rules of the game. We have to envision this as loaded with conflicts, tension and competition. Who is to decide what is ugly and beautiful, good and bad, true and false? (Moe, 1994).

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4 http://www.soci.canterbury.ac.nz/glossary/index.htm
Bourdieu characterizes social relations in the context of what he calls the field, defined as a competitive system of social relations functioning according to its own specific logic or rules. The field is the site of struggle for power between the dominant and subordinate classes. It is within the field that legitimacy, a key aspect defining the dominant class, is conferred or withdrawn. That legitimacy is presented in the form of symbolic capital, which I will discuss briefly a little further on in this chapter. Moi (1991) quotes Bourdieu as defining the field in this way:

"A space in which a game takes place, a field of objective relations between individuals or institutions who are competing for the same stake." That stake is the increase of capital, in order to ensure the reproduction of the individual or institution's class." (Moi, 1991 as cited by Lawley, 1994)

Rather than using his concept of field as a substitute for the traditional concept of culture, Bourdieu sees everyday life as consisting of not one but a conglomeration of fields, including leisure, family patterns, consumption, work, artistic practices, and others (Sulkunen, 1982).

The different fields of society are not static. A field is in many ways like a magnetic field. It is a structured system of objective forces, relational configuration with its own weight affecting all objects and agents entering its domain. A field is also a room for conflict and competition. It can be compared to an area of engagement on a battlefield, where the participants compete to win monopoly control of the particular type of capital in question (Bourdieu & Wacquant). In the battle of the hegemony the field will also change. When "everyone" is wearing jeans or leather overcoats, something happens. When "everyone" goes roller-bladeing in fluorescent tracksuits, something happens. How do we know that something happens? Where is the dynamic? Bourdieu's answer points to the actor's thoughts and orientations (Moe 1994).

### 2.2.2 Bourdieu's Concept of Habitus

The concept "habitus" indicates the actors structuring of the world as they encounter it in their everyday lives. The concept can be determined as our way of dealing with the world, the social heritage inherent in our conceptions and behaviour. Our habitus is
embedded but at the same time flexible enough to orient us in new situations and contexts.

Habitus is what we fall back on when the world becomes chaotic and incomprehensible to us. In this way it operates both as a kind of protection and as a kind of footing we can never be entirely free of. It is a complex concept but that is the way it has to be according to Bourdieu, who refers to the complexity of life itself (Moe, 1994).

The Latin, "habitus", means condition (of the body); character, quality: style of dress, attire, disposition, state of feeling; habit. Bourdieu's concept of human habitus matches somewhat the original Latin meaning, except perhaps for "character." For Bourdieu, habitus refers to socially acquired, embodied systems of dispositions and/or predispositions. Thus it refers not to character, morality, or socialization per se, but to "deep structural" classificatory and assessment tendencies, socially acquired, and manifested in outlooks, opinions, and embodied phenomena such as movement, posture, ways of walking, sitting even spitting and blowing ones nose, and so forth. Habitus underlies such second nature human characteristics and their infinite possible variations in different historical and cultural settings. While habitus derives from cultural conditioning, Bourdieu does not equate habitus with its manifestations; nor does he think of habitus as a fixed essence operating like a computer program determining mental or behavioural outcomes. Bourdieu rejects crude determinist notions of human action as passive reflexive responses to conditioning stimuli. He also rejects structuralism notions of behaviour as execution of imperceptible yet determinate rules of action (Scahill, 1993).

The ancient Greeks used the term habitus to refer to permanent dispositions and their mediating effects on behaviour and persona. Asked once why he picked up on the notion of habitus, Bourdieu replied:

"The notion of habitus has been used innumerable times in the past, by authors as different as Hegel, Husserl, Weber, Durkheim, and (Marcel) Mauss, all of whom used it in a more or less methodical way. However, it seems to me that, in all cases, those who used the notion did so with the same theoretical intention in mind…. I wanted to insist on the generative capacities of dispositions, it being understood that these are acquired, socially constituted dispositions…. I wanted to emphasize that this "creative," active, inventive capacity was not that of a transcendental subject in the idealist tradition, but that of an active agent…. I
wanted to insist on the "primacy of practical reason" that Fichte spoke of, and to clarify the specific categories of this reason…".
(Bourdieu, 1990)

One of the most important functions for the concept of habitus thus is to mark the break the intellectualistic philosophy for behaviour, primarily represented by the theory of "homo oeconomicus" as a rational agent. It is about accounting for the practise in it's most humble forms, represented by ritual behaviour, choices of marriage, everyday economic behaviour etc. (Moe, 1994).

2.2.3 Bourdieu's Concept of Capital
While the field and habitus describe, respectively, the environment and rules within which struggles of different types take place, the concept of symbolic capital defines the tools used by individuals and institutions within a field to gain dominance and thus to reproduce themselves over time. It is in this area that Bourdieu both draws most strongly from Marxist ideas of class and conflict, and also breaks most clearly from the classical Marxist constructions. Rather than defining capital purely in Marx's economic terms, Bourdieu defines two primary types of symbolic capital: economic and cultural. Both describe endowments that individuals bring with them into the field and attempt to increase. Economic capital is equivalent to the capital familiar to students of Marxist theories including both monetary and property assets. Cultural capital, however, is a concept unique to Bourdieu's theoretical model. Bourdieu operates with a rather narrow definition of culture and this is where it comes into play. Cultural capital can also be described as cultural competence. Like economic capital, it conveys legitimacy, and legitimacy regulated by institutions within the society. In the case of cultural capital, that legitimacy is regulated not by the government but by educational and artistic institutions (Lawley, 1994).

Just as economic capital can be converted into cultural capital, cultural capital can be converted into economic capital. However, these conversions happen at different rates of exchange. Economic capital is more liquid, and more easily transferable from generation to generation, making it particularly useful in continuing the process of reproducing class legitimacy and domination over time. Cultural capital, on the other hand, also functions
as a major factor in class definition. In order to maintain the legitimacy of cultural capital, and to ensure both its convertibility and its ability to reproduce itself, the educational system creates a market in cultural capital with certificates as the currency (Garnham & Williams, 1990).

The real significance of capital in Bourdieu's theoretical model is the role that it plays in the continuing struggle between the dominating and the dominated classes. It is through the acquisition of capital, and the use of symbolic capital to carry out symbolic violence, that classes ensure their own legitimacy and reproduction. Like Marx, Bourdieu believes that the more this process of symbolic violence is hidden from sight and left unchallenged, the more powerful it is in reproducing class dominance (Bourdieu & Passeron, 1990). Having presented the theory I am going to use analysing my findings later on, I will now proceed to outline the utilisation of ideal types, as the construction of ideal types also will play an important role in my analysis later on.

### 2.3 Ideal types

Every science worthy of that description defines its concepts precisely. The hard sciences have the advantages that their concepts, like mass, energy, power and force, can be expressed by numbers. When the soft sciences use the same concepts, they are exceedingly vague and constantly gives rise to misunderstandings and confusion (Freund, 1970:59). How then, can an analysis be precise if the intellectual tools it employs are not? Weber evolved his notion of the "ideal types" in order to give the concepts utilised in social and historical science, the necessary rigor.

"An ideal type is formed by the one-sided accentuation of one or more points of view and by the synthesis of a great many diffuse, discrete, more or less presented and occasionally absent concrete individual phenomena, which are arranged according to those one-sidedly emphasised viewpoints into a unified analytical construct."

(Weber, cited in Freund, 1970:60)

The ideal type is thus the sum total of concepts constructed by the soft science specialist, purely for purposes of research (Freund, 1970:60). Weber disagrees with the old view that science is capable of penetrating to things' essence in order to unify them in a
complete system that would be a faithful representation of reality. In his belief, no system is capable of reproducing all reality, because reality is infinite. It is also his opinion that no concept can wholly reproduce the utter diversity of particular phenomena. In other words, there is no knowledge that is not hypothetical. What makes this kind of conceptual construction "ideal" is that it is never or only very rarely, encountered in all its purity in real life (Freund, 1970:63).

Weber explained his concept of the ideal type in terms not only of what it is intended to be, but also of what it is not intended to be, in order to avoid any possible misunderstandings. For one, the ideal type does not attempt to grasp the reality of things. It is not to be identified with reality in the sense of expressing the true essence of reality. In fact, it is precisely because it is unreal and thus takes us a step away from reality, that it enables one to obtain a better intellectual and scientific grasp of reality, although this will necessarily be a fragmented one. Furthermore, when one calls one's construct an "ideal type" that term has nothing in common with an ideal in the ethical sense, in essence what should be. The ideal type is not intended to be an example of how something ought to be, and must not be confused with an ethical model. The ideal type seeks perfection of a logical and not a moral order. Value does not figure into it. Weber did not regard ideal types as goals of cognition, only instruments, evolved deliberately according to the needs of the investigation. Their value is thus solely determined by their helpfulness and effectiveness in research. In themselves, ideal types are neither true nor false, just useful or useless (Freund, 1970:66). Summarised, the function of the ideal type is to grasp the central point of a complex set of cases. The way to do this is to try and understand the thoughts and values that encompass the phenomena (Moe, 1994:41). Ideal types can thus be a very useful tool in research, helping the researcher cut through all excess information, straight to the centre of the matter. I thus found the construction of ideal types a helpful tool in analysing my rather extensive data material. I will describe this process in more detail in chapter four, where I present the theoretical constructs I used to sort through my data.
2.4 Studying ICT

As mentioned in the introduction this is a rapidly changing field. New elements keep entering the arena, changing the scenery as they do so. A lot of research has been done on various aspects of the field. To give a few examples, Sherry Turkle has dealt with issues like the development of the self in interaction with the computer (The Second Self) and interaction through the computer (Life on the Screen). Manuel Castells has dealt in depth with issues of globalisation and ICT. Ivar Frønes has examined what he calls "Digital Divide" referring to the gap between those that have access to the technology and those who do not, and Clifford Stoll has voiced concerns and second thoughts on where the technology is taking us. Given the focus of my thesis however I have selected two areas of research that focus on issues similar to the focus of my thesis, to give an example of what has been done, and how my research fits in all of this. These two areas are computer literacy and domestication.

For interpretations, later in the thesis I plan to draw upon the studies of C.M. Allwood, who has examined how teachers learn to use the computer in order to pass on this knowledge to the pupils. I will also use Everett Rogers' model on how innovators gain ground within a social system.

2.4.1 Computer literacy.

According to Wendy Hall (Rahtz et al., 1987:81) computer literacy has become a well established term. The term is based on the older term of 'literacy' which itself signifies the ability to read and (possibly) to write at a minimum level. It is a commonly held opinion that it is essential for everyone in the modern world to achieve some degree of literacy. This is increasingly also the case with computer literacy. But what exactly does the term computer literacy mean? According to John Lombardi the notion of computer literacy can mean anything. To elementary school parents and teachers it can mean that one possesses a familiarity with the computer and has the ability to turn it on and off without damaging it. To computer science faculty members it can mean that one possesses the ability to program in at least three computer languages, comprehends the elements of computer architecture, and understands the fundamentals of Boolean logic. According to Lombardi,
computer literacy is all of these things and everything in between (Lombardi, 1983:1). As he puts it:

"Computers, marvellously complex and mysterious machines, are no more difficult to understand than your dishwasher or your car. You don't need to know much about mechanical engineering to understand what dishwashers do, how to make them do it, and what tasks they help perform. You don't have to comprehend the intricacies of a gasoline engine to know that the automobile has changed our lives, rearranged our landscape, and captured significant parts of our income. You can understand cars and dishwashers well enough to have an opinion about what to do with them. Computer literacy equips you to approach the computer in the same way."
(Lombardi, 1983:2-3)

Alfred Bork, a pioneer of the use of computers in education in the US, on the other hand defines computer literacy as:

"… the minimum knowledge, know-how, familiarity, capabilities, abilities and so forth, about computers essential for a person to function well in the contemporary world."
(Bork 1985 as cited by Rahtz et al., 1987:81)

As Lombardi also pointed out, computer literacy differs from earlier forms of literacy in being much more subjective. It is simply more dependent on the individual's background than reading or writing. This may be because of the newness of the field, and its rapidly changing nature. It may however also be a more fundamental issue, reflecting the fact that people will use computer in quite different ways (Rathtz et al., 1987:81).

When defining computer literacy Bork also outlined some general components of a computer literacy program which could be adapted to suit all types of students. These were:
• Social implications of the computer.
• Strengths and weaknesses of computers.
• Ability to learn more about computers.
• Common applications.
• Knowledge of programming\(^5\).
• Critical attitude.

(Bork as cited by Rathtz et al., 1987:81-2)

As I will try to illustrate later on through my analysis, the concept computer literacy thus encompasses some of the elements that make up what I refer to as a person's ICT habitus, i.e. by way of being familiar with the technology, using it in everyday tasks thus functioning well when having to relate to ICT and also being able to continue developing one's skill to meet new demands and new challenges.

\(^5\) Bork outlined these components in 1985 and although most of them are still valid I believe that the “knowledge of programming” component was partly due to the shortness of software and partly due to the belief that learning to program would give people a feeling of control of the technology. I will return to this discussion in chapter five.
2.4.2 Domestication

In November 1989 there was a workshop in Trondheim on the fruitfulness of doing research on the topic that was called "Technology and Everyday Life". The workshop was considered successful, and it was decided to take the issue a step further. The second workshop was held in Trondheim in May 1990, with an aim to compare and discuss different approaches to the study of technology's impact on everyday life, the relationship between technological innovation, culture and cultural changes, and the challenge to industry of consumers' demands. While the first workshop only had Norwegian participants, the second workshop also had participants from the other Scandinavian countries, and even some non-Scandinavian participants. From the organizers' view the goals of the workshop were achieved. The presentations proved to them that there were a set of existing problems, basic presuppositions, models and theories which were sufficient as a basis of exploring the relationship of technology and everyday life (Sørensen et al., 1991:i).

There were however some disagreements about whether "Technology and Everyday Life" was a good term to characterize the efforts needed. In time the concept of domestication was introduced to deal with this. The following is an example of how Knut Sørensen, one of the organizers of the second workshop views domestication:

"When we consume technological artefacts that are new to us, we domesticate them. They are appropriated and then integrated into the setting. This integration process implies work in the symbolic as well as the practical domain. Domestication of for example a personal computer may be seen as a collective effort on the part of the household, maybe resulting in a placement of the PC and the establishment of routines that regulate its use after a period of controversy. The controversy may, however never end. Also, in any case, each member of the household has to find his or her way with the PC." (Sørensen, 1994:7)

Domestication may mean conflict as well as change, and it is not a process that indicates a linear progression of some sort (Sørensen et al., 1996:10). Domestication is in many ways the practical as well as emotional adaptation to technology. It is a process where one appropriates an object in order to make it meaningful to one's life. Once one has attributed meaning to it, it functions as an expression of self (Sørensen et al., 1996:17).
Several studies have come out on the topic of domestication. In the book "Making Technology Our Own" (Sørensen et al., 1996), several articles from different authors are collected, all of them on the role of modern technology and domestication. The studies range from exploring parenthood in contemporary "modern times", to looking at the car as a cultural statement. The study that comes closest to the focus of my thesis is an article by Margrethe Aune, called "The Computer in Everyday Life: Patterns of Domestication of a New Technology". It examines the cultural integration of the computer and its significance to the users' everyday life (Sørensen et al., 1996:91-120).

It should also be noted that when Sørensen talks about domestication as a way to understand how one integrates new technology into one's everyday life, he mentions that some aspects of this process could be analysed in terms of Bourdieus concept of habitus, highlighting the potential impact of social class and cultural capital (Sørensen, 1994:7). This is what I intend to do later on in this thesis, although my focus is not so much on social class, given the size of my sample. Cultural capital however do feature in my analysis, but I have taken the concept one step further focusing on what I have labelled "ICT capital". I will return to this concept in chapter four, when outlining the theoretical tools I utilised in the analysis of the empirical material.
3 Method

In this chapter I will attempt to describe how I gathered the information I needed for my thesis. I will start by describing the reasons for my choice of method. Since this is a cross cultural study I will also briefly give an outline of the theory behind and how this played into my research. Then I will outline the process of selecting subjects for my research and the sample I ended up with. Furthermore I will give a short description of how I conducted the interviews and of my role as an interviewer. I will conclude this chapter by giving a short report of how I chose to process the data.

3.1 Choice of method

The first thing I had to decide was how to go about collecting the data I needed for my thesis. In order to do that my primary object was to determine what kind of approach would best serve my needs. I therefore had to take into consideration the relative strengths and weaknesses of qualitative and quantitative methods.

Quality is all about the character or skill of someone while quantity tells us how much there is of this specific character or skills. The goal of qualitative research is therefore to clarify a phenomena's character or skills, while the goal of quantitative research is to determine the quanta of this. Qualitative research is in other words more contents seeking while quantitative research is more contents-driven (Widerberg, 2001).

When using qualitative methods one can therefore study selected issues, cases or events in depth and detail. The data collected is not constrained by predetermined categories of analysis, and this contributes to the depth and detail of qualitative data. Quantitative methods on the other hand use standardised measures that fit various options and experiences into predetermined response categories. The advantage of the quantitative approach is that it measures the reactions of a great many people to a limited set of questions. This makes it easier to make comparisons and statistical aggregations of the data, and it also gives a broad generalisable set of findings. By contrast, qualitative methods produce a wealth of detailed data about a much smaller number of people and cases. Qualitative data provide depth and detail through quotations and descriptions of situations, events, people, interactions and observed behaviours. This information is
collected as an open-ended narrative without attempting to fit it into predetermined standardised categories such as the response choices that constitute typical questionnaires or tests (Patton, 1987).

The primary method of collecting quantitative data is by using a survey. Looking closer at survey research one can say that the strength of it is that it tends to provide information, which one can be fairly confident, applies over a broad area, the drawback being that the same information is less detailed (Giddens, 1984). My goal was to try to map students' use of ICT and their feelings around this use. What I really wanted to do in order to collect the data I needed was first to do a survey and then follow up by interviewing a smaller sample of the population. I think this combination of quantitative and qualitative method would have given me the best approach to collect the data I needed to explore my hypotheses. This however, was not possible as both my time and resources were limited. Since I was most interested in detailed information the qualitative approach seemed best for my purpose as extended interviews provide richer material than is usually available from surveys. Furthermore interviews are usually used when one wants to investigate personal feelings, opinions and intentions of the person interviewed (Kalleberg, 1982). I therefore leaned towards doing in-depth interviews of a small group, as I felt this would provide me with the most relevant and rich data material within the given limits.

The disadvantage of this method is that the influence of the interviewer may be greater, possibly affecting the results and that it is more difficult to compare responses in a rigorous way (Brenner, 1978 as quoted by Giddens, 1984). Despite the disadvantage, qualitative interviews still seemed to me to be the best choice and I therefore selected qualitative interviews as my main method for collecting data. I felt that the most reasonable approach in trying to find out how students dealt with ICT would be to ask them about it in person.
3.2 Cross cultural studies

The field of cross cultural studies is generally concerned with peoples' behaviour given the country, culture or environment they live in. Its goal is to make comparisons of behaviour between cultures. The idea being to search for underlying reasons for similarities and differences. In the differences and similarities there are a great potential. One's own culture might on one hand benefit from the contact with a foreign culture, and on the other hand contribute something valuable to the other (Dahl & Habert, 1986:7). There are however challenges one has to face in undertaking a cross cultural study. The following is some of the challenges, listed by Brisling et al. in the book "Cross-Cultural Research Methods" (1973):

1. Gaining access to the culture.
2. Obtaining samples of people equivalent to respondents from comparison studies in the researcher's own culture.
3. Writing meaningful questions and translating them.
4. Ascertaining that the questions written in one language are equivalent in meaning to those in another.
5. Assuring that any additional tools of research are not merely a momentary and strange imposition on subjects.
6. Interviewing people who may be much more hostile or courteous (both leading to biases) to researchers than respondents from Western countries.
7. Developing reasons for the obtained data that are a function of all cultures under study rather than the researcher's own unicultural biases.

(Brisling et al., 1973:4)

Some of these challenges I will discuss further throughout this chapter, others did not apply to my study. My country of comparison was USA, more specifically Northern California. Although this is almost on the other side of the globe, both countries are part of the "Western culture", thus being quite similar in many areas. Still, similarities can in some circumstances make the differences even more interesting. As I mentioned in the
introduction I wanted to compare Norway to the US, specifically Northern California as this is in many ways the cradle of ICT. I presumed there would be differences between the two groups of students on how they used ICT in their everyday life as students, and I will explore these differences as I present my findings later on. The cross cultural aspect of my study is thus very important as a background for my research. More so in fact, than as a main theme. I will therefore not put a lot on emphasise on the cross cultural aspect of the study in itself, and rather explore the outcome of it.

3.3 Subjects
As mentioned I wanted to ask students how they dealt with ICT. In order to do this I needed someone to ask. The following section deals with the subjects of my thesis. I will give a short description as to how I selected them, then a short presentation of the sample I ended up with and at last, a comment as to how I have decided to present this sample in my thesis.

3.3.1 How did I choose them?
I will now proceed to give a presentation of how I went about selecting subjects for my interviews, whom it was that actually turned up, my role as an interviewer and how this might have affected the results.

According to Weiss there are two distinct categories of potential respondents: people who posses unique information because they are experts in an area or have witnessed an event; and people who, when put together, display what happens within a population affected by a situation. If one wishes to describe a specific event it would be wise to interview people who have experienced it and thus put together a panel of knowledgeable informants. Each of the members would be chosen because he or she could contribute significant information. One would choose a different approach if one wants to study the experience or behaviour of people who have some common characteristics. In this case one would need a sample of people who together can represent the population one wishes to study, a sample of representatives. (Weiss, 1994) I wanted to look at how the use of ICT affected the everyday life of graduate students of sociology, so what I needed was a sample of
representatives. The next step was to select this sample. Weiss describes three ways in qualitative method of selecting a sample: Probability sampling, samples that attempt to maximise range and convenience sampling. Since I needed a relatively small sample at both universities I decided that the logical thing as well as the most practical thing for me to do was to use convenient sampling. Although the use of convenient sampling means that the sample is not necessarily representative of the whole population it does not mean that the theory is limited to the sample from which it was developed (Weiss, 1994).

In Berkeley, some of the other Norwegians I knew were taking graduate classes at the department of Sociology. I therefore asked them to distribute a small pamphlet I had made in order to enlist subjects for my interviews. This, however as it turned out was not an ideal way of getting informants, as I got only one reply. The next thing I did was therefore to contact the institute and have them post the text of my pamphlet to the graduate students’ mailing list. With this method I had better luck and I got the rest of the student I needed for my interviews, seven in all.

In Norway I went through much of the same process. Since the graduate students of sociology’s mailing list at Blindern was not so widely used as in Berkeley at the time, I decided upon posting my pamphlets at various places where I knew potential subjects would see them. In both Berkeley and at Blindern I supplied my phone number and e-mail address as a means of contacting me, and both places all of the subjects made first contact through e-mail, an issue I will return to in my analysis.
3.3.2 Who are they?
So, I had got a sample on which to conduct the interviews, but who was it that in fact turned up? I will now proceed to give a short description of the sample in general; gender, age, level in study and how long had they been at the university in question.

**Blindern**
At Blindern, only one of the seven I interviewed was male. The seven subjects' age ranged from 24 to 28.6 Two of them were in their first year, and the rest in the process of writing their thesis. The time they had been attending Blindern as students ranged from 3 ½ to 8 ½ years.

**Berkeley**
Of the students I interviewed at Berkeley two were male, and the five others were female. In addition one of the respondents was African American. The age of the subjects ranged from 23 to 37. They were all graduate students, two of them being in their first year, the rest being in their second year. All of them had started studying at Berkeley as they began their graduate studies.

3.4 Comment on sample
In my sample I have not taken into account the subjects' class background, gender, ethnicity or geographic origin within the two countries. Because of the relatively small sample at each university, and the limitations of the thesis, I decided that taking all these different factors into account would confuse rather than clarify the object of my thesis. However it should be stated that of the 14 subjects interviewed, one of the subjects was African American, and 11 were female. Furthermore sociology is a subject where women constitute the majority of the student body. Still, due to the limitations mentioned earlier I have chosen do disregard this discrepancy, focusing rather on potential cultural related

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6 This is the age they were at the time I did the interviews in 1999.
differences in the two samples. Having the protection of my subjects identity in mind I will therefore refer to all of my informants as "she".

### 3.5 My Role

As already mention a drawback to qualitative interviews is a phenomena mostly called "The Interviewer Effect". This describes, amongst other things how the interviewers appearance, mannerism way of dressing or way of talking can affect the outcome of the interview. In the book "Learning from Strangers" Robert S. Weiss writes:

"There are so many different interviewer attributes to which a respondent can react that the interviewer will surly be an insider in some ways, an outsider in others." (Weiss, 1994)

My problem was that I was a student interviewing students on my own level, often doing the same thing as I. This is also something Weiss discuss in his book. He there comments on the fact that he finds it most difficult to interview people in situations similar to his own. This way it might be undesirable to be an "occupational" insider as issues of competition are hard to disregard. Another problem in this situation, according to Weiss, is confidentiality. The subject may doubt whether you really can be trusted to keep the information to your self or whether it may provide material for gossip. Just the fact that one has the information can be a problem as one in this situation is a potential colleague or competitor. Weiss advise that one should avoid interviewing people who are or may become colleagues in the same way one should avoid interviewing people in ones own family. He allows for an exception to this if ones study requires such interviews but recommend caution.

At Berkeley I was in many ways very much the outsider. I had only a very basic knowledge about the University and the department of sociology. I had not followed any classes at the department and did not know any graduate students at the university. I also had a bit of trouble getting in touch with potential subjects, and when I finally did, this was mainly through e-mail. This may have affected the results, although at Berkeley you need to have an e-mail address in order to take classes. In theory every potential subject at the department of sociology should have received my add.
Being an outsider might not necessarily be such a bad thing. On the one hand Weiss claims that in general he has found it better to be an insider to the milieu where the respondent lives because it is then easier to establish a research partnership with this person. On the other hand he also mentions that some of his most instructive interviews have been good because he as an outsider needed instructions in the respondents milieu. In these situations he has been told things in great detail, and has been given answers to questions an insider might not have asked. He has also experienced that respondents sometime talk more openly to outsiders, not only because the outsider seem to appreciate tutelage, but also because outsiders do not share the values that would make them condemn those aspects of the respondents behaviour that an insider would recognise as failing inside norms (Weiss, 1994). My overall impression when all is told was that the interviewer effect did not affect the interview situation significantly. There was however a slight difference in how the interviews flowed at Berkeley and Blindern something I will go more into in the next section of this chapter.

3.6 The Interviews

According to Michael Patton the fundamental principle of qualitative interviewing is to provide a framework within which respondents can express their own understanding in their own terms (Patton, 1987). I will now try to describe how I went about in my efforts to create this kind of framework for my interviews.

3.6.1 The Interview Guide

Through my interviews I wanted to look closer on; when and in what way the students first encountered the different elements of the ICT, defined in this situation as the computer, the internet and e-mail, whether they had ever used a computer in school before going to the university, how they felt the ICT had affected their situation as a student, how they would describe their relationship with the technology and what role they pictured the ICT would play in their future lives. In order to create a framework for the interviews, and also making it easier for me in the interview situation I decided to
develop an interview guide, covering these areas. The advantage of an interview guide is that it makes sure one has carefully decided how best to use time available in an interview. The interview guide also helps make interviewing different people systematic and comprehensive by delimiting the issues to be discussed in the interview. In addition it also serves as a basic checklist during the interview to make sure all relevant topics are covered at the same time leaving the interviewer free to decide sequence and wording of questions in the course of the interview. The strength of this approach is that the outline increases the comprehensives of the data, and makes data collection somewhat systematic for each respondent. The weakness is that interviewers' flexibility in sequencing and wording questions can result in substantially different respondents, thus reducing the comparability of responses (Patton, 1987). All in all I was very happy with my decision to use an interview guide. I think I would have had a lot of trouble conducting the interviews and remembering all the questions without it. Especially at Berkeley where I was conducting the interviews in English, it was a great help in structuring the interviews.

### 3.6.2 Conducting the interviews

At Berkeley I had in advance tried to get hold of a room at the university where I could talk with the subjects without disturbance or interruptions of any kind. Due to a shortage of available rooms this was not possible. Instead I had the informants themselves propose a place, like a cafe or similar where we could meet. This worked out fine, although the fact that the interviews were conducted in a very public arena might have influenced them. There were a lot of background noise, and on some occasions people interrupting the interview itself. Another thing that might have influenced the interviews is the fact that English is not my primary language, but I did not have the overall impression that this posed much of a problem.

At Blindern I was able to secure a room on campus where I conducted the interviews. Although this provided more privacy and enabled me to conduct the interviews in peace and quiet I felt much more uncomfortable during the interviews conducted at Blindern. I also felt that these interviews did not flow as easily as the Berkeley ones. This may have several explanations. Some of it may be due to the already mentioned "interviewer
effect”. Another reason may be that in Berkeley the respondents were at their own turf, having themselves picked out the place for the interview. The public settings may have helped making the situation more informal allowing the interview to flow as a normal conversation would have done. At Blindern the setting was rather formal. The room I got was small and contained only a table and two chairs. This made the tape recorder very much more visible and may have made the respondents more guarded. The lack of background noise would have made any silent pauses uncomfortable and may have contributed to the lack of flow in the interviews. It is somewhat ironic that the ideal interview setting made the interviews less so.

As already mentioned, I used a recorder to tape the interviews. None of my respondents objected to this, in fact they seemed to expect it. Again I think it helped that subject of the interviews was not very sensitive. This also was reflected in the length of my interviews. None of the interviews I conducted were over an hour, and most were around 45 minutes. Still, all of the interviews were very information rich, and my respondents hardly strayed at all from the subject of the interview. So, all in all I was reasonable satisfied with the data material gained from the interviews I conducted.

3.6.3 Reflections, strengths and weaknesses
As already described, I did actually experience that the respondents at Berkeley were less guarded and more accommodating than the respondents at Blindern. Also, because there was so much I lacked knowledge about, regarding the ICT condition at Berkeley, I was much better at following up on information surfacing during these interviews. When transcribing the interviews I noticed that I did not always pose follow-up questions on some of the elements that came up during the interviews, because I already thought I knew the answers. There were things the subjects said in their interviews I in retrospect should have followed up. This was especially evident in the Blindern interviews. Still, I felt I got the information I needed. Again, it might have helped that the nature of my interview were not very personal.

A strength of the qualitative approach is that even with a small sample it provides focus and depth, something other types of approaches are often lacking in. I considered the data
material I had gained to be rich and interesting. The fact that the focus of my research was not a very sensitive issue may have helped to overcome some of the obstacles Weiss mentioned connected to interviewing someone in my own "profession". My main flaw as an interviewer I think, was not following up information gained, especially, as mentioned, in the Blindern interviews where I thought I already knew the answers. In further research on the area it would therefore be interesting to do a more in-depth study on each of the different elements I looked into.

Another weakness with my study is that I did not interview any professors, coordinators or lecturers at the two universities. Nor did I interview any technical personnel. Almost all of my information is based on my interviews of the students.

Due to various reasons I have been a bit delayed in the work on my thesis. I conducted my Berkeley interviews in May 1999 and my Blindern interviews in October 1999. I finished transcribing the interviews the autumn of 2000. In the period from January 2001 to March 2002 I had several, extended sick leaves. Between May 2002 and May 2003 I had a leave of absence from my studies, and from then till now I have had further sick leaves.

The danger of entering a rapidly changing arena, like the ICT arena is that information just as rapidly becomes obsolete. This however as I see it, is not the case with my findings. My thesis is about technology in change and how people deal with this new technology. According to Bourdieu a person's habitus is something that changes slowly over time. This is a discussion embedded in the philosophical plane and with this in mind I would argue that my data material is still very much relevant. Especially as I examined an ongoing process, and thus "captured a moment of time", providing a rich material on that moment through the use of qualitative interviews.
3.7 Processing the data

Having collected the data and transcribed the interviews I was left with a rather rich and detailed data material. In order to get a clear idea of what I had really found, I needed to sort through my data in a systematic and orderly fashion. I started by sorting each interview into the following categories:

- The computer as a tool
- The internet
- E-mail
- Computer labs
- Internet connection
- In teaching
- Courses

I then proceeded to colour-code the interviews according to each of the areas covered in the interview guide. I sorted each respondent's answer to the different questions in tables to make a comparison easier. In addition to this I also sorted out quotes that I found especially informative in each interview and commented on them. I put a lot of time and effort into the coding of the data but I felt it was necessary in order to analyse it in the best possible manner. All in all I felt it was time well spent.

In order to present my findings later on in a similar, orderly fashion I decided to equip my informants with "fake" identities. I have assigned fictive names to each of my informants. My Blindern subjects thus ended up with the following names: Anne, Beate, Cecilie, Dina, Elin, Frida and Grete. My Berkeley student I named as follows: Amanda, Beatrice, Courtney, Diana, Evelyn, Fiona and Gabby. In table 3.1 I have summarised the profiles of my subjects:
**Table 3.1: The subjects**

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Studied at given university</th>
<th>Level of studies reached</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anne</td>
<td>27 years</td>
<td>8 ½ years</td>
<td>She is 2 ½ years into her graduate studies, working on her thesis.</td>
</tr>
<tr>
<td>Beate</td>
<td>24 years</td>
<td>4 years</td>
<td>She has just finished her first year of graduate school, about to start working on her thesis.</td>
</tr>
<tr>
<td>Cecilie</td>
<td>26 years</td>
<td>4 years</td>
<td>She is 2 ½ years into her graduate studies, working on her thesis.</td>
</tr>
<tr>
<td>Dina</td>
<td>24 years</td>
<td>4 years</td>
<td>She is a first year graduate student.</td>
</tr>
<tr>
<td>Elin</td>
<td>28 years</td>
<td>6 ½ years</td>
<td>She is working on her thesis.</td>
</tr>
<tr>
<td>Frida</td>
<td>26 years</td>
<td>7 years</td>
<td>She is on her fourth semester of graduate school, working on her thesis.</td>
</tr>
<tr>
<td>Grete</td>
<td>24 years</td>
<td>3 ½ years</td>
<td>She is working on her thesis.</td>
</tr>
<tr>
<td>Amanda</td>
<td>24 years</td>
<td>1 year</td>
<td>She is just finishing her first year in graduate program in sociology.</td>
</tr>
<tr>
<td>Beatrice</td>
<td>23 years</td>
<td>2 years</td>
<td>She is in her second year of graduate school, finishing the masters stage.</td>
</tr>
<tr>
<td>Courtney</td>
<td>29 years</td>
<td>2 years</td>
<td>She is in her second year of graduate school, finishing her masters.</td>
</tr>
<tr>
<td>Diana</td>
<td>28 years</td>
<td>1 year</td>
<td>She is a first year graduate student.</td>
</tr>
<tr>
<td>Evelyn</td>
<td>27 years</td>
<td>2 years</td>
<td>It is her second year of graduate school and she is hopeful she will get her masters over the summer.</td>
</tr>
<tr>
<td>Fiona</td>
<td>37 years</td>
<td>A long time</td>
<td>She is just about to finish her dissertation.</td>
</tr>
<tr>
<td>Gabby</td>
<td>25 years</td>
<td>2 years</td>
<td>She is finishing her second year of graduate school.</td>
</tr>
</tbody>
</table>

(Source: Author's research)

Since I had spent so much time sorting the information in each and every interview to get an overview of each informant I felt this was also the best way in which to present the information.

As I am comparing my Blindern and Berkeley subjects I thought it might make it easier to present the different school system and my own adaptation as to make the comparisons easier. Thus when I refer to a stage of education it will be according to my adaptation, as to make the comparison easier. I have summarized this in table 3.2-3.4:
The Norwegian School System

<table>
<thead>
<tr>
<th>AGE</th>
<th>NORWAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-13</td>
<td>Barneskolen</td>
</tr>
<tr>
<td>13-16</td>
<td>Ungdomsskolen</td>
</tr>
<tr>
<td>16-19</td>
<td>Videregående</td>
</tr>
<tr>
<td>19+</td>
<td>Universitetet</td>
</tr>
<tr>
<td>23+</td>
<td>Hovedfag</td>
</tr>
</tbody>
</table>

(Source: Author's knowledge)

The US School System

<table>
<thead>
<tr>
<th>AGE</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-13</td>
<td>Elementary school</td>
</tr>
<tr>
<td>13-16</td>
<td>Junior high school</td>
</tr>
<tr>
<td>16-18</td>
<td>High school</td>
</tr>
<tr>
<td>18-20</td>
<td>Junior College/ University</td>
</tr>
<tr>
<td>20+</td>
<td>College/ University</td>
</tr>
<tr>
<td>22+</td>
<td>Graduate studies</td>
</tr>
</tbody>
</table>


Table 3.4: Adaptation

<table>
<thead>
<tr>
<th>AGE</th>
<th>SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-13</td>
<td>Elementary school</td>
</tr>
<tr>
<td>13-16</td>
<td>Junior high school</td>
</tr>
<tr>
<td>16-19</td>
<td>High school</td>
</tr>
<tr>
<td>20+</td>
<td>University</td>
</tr>
<tr>
<td>My subjects</td>
<td>Graduate studies to get their masters degree</td>
</tr>
</tbody>
</table>

(Source: Author's adaptation)

The idea is that the adaptation presented in table 3.4, in addition to the false identities of my subject will simplify the presentation of my findings. With this in mind I have also constructed theoretical tools to use while analysing the data. I will present these in the following chapter.
4 Methodology
In this chapter I will present the theoretical tools I am going to use while analysing my data material. I will present the idea of ICT habitus and ICT capital derived from Bourdieu's concept of habitus and capital, which I outlined in chapter two.

4.1 ICT Habitus
Reading Bourdieu one finds that he assumes that social agents inherently are sensible. He sees them as fare less eccentric and conceited than one tends to think. There are however cases of displacement where behaviour can seem incomprehensible if one does not take into account habitus' built-in lag. To illustrate this Bourdieu has said:
"I'm thinking of cases I have seen in Algeria where people suddenly are thrown into a "capitalistic cosmos" with a "pre-capitalistic habitus".

"I'm further more thinking of historical situations of the revolutionary kind, where the changes in the objective structures are so rapid that agents who have had their mental structures shaped exactly by these objective structures feel left behind, and one says their actions are untimely and pointless, a bit like the actions of old people whom one says has been left behind, or even as Don Quijote." (Bourdieu & Wacquant)

This can further be illustrated by the words of Eric Hoffer, an American social philosopher who once said:

"In times of change, it is the learners who will inherit the earth, while the learned find themselves beautifully equipped to handle a world that no longer exists."

(Eric Hoffer, 1973)

The lag in habitus could help explain the amount of frustration a lot of people feel when dealing with ICT. This is a relatively new technology, which has been available to the public for only a relatively short period of time. Furthermore it is a very rapidly changing technology, where things one was taught yesterday not necessarily holds true tomorrow. People are thrown into the "Information Society" with a "Post-Industrial Society" habitus and thus lack the mental structures for dealing with the new technology in a comfortable way. The children growing up in today's society, surrounded by the technology relates to it in a fundamentally different way than those that has not grown up with it (Sherry Turkle). It is an ongoing joke that if you want an
ICT expert you need to get a hold of a 10 year old child, as illustrated by the following cartoon published in Dagbladet:

**FIGURE 4.1: NEMI COMIC STRIP**

(By Lise)

As the ICT has become available to a large selection of the population the inevitable change in the field also leads to a change in the actor's thoughts and orientations. All of a sudden "everyone" is online, "everyone" has an e-mail address and "everyone" knows how to use a computer.

"What was once as geeky as a pocket protector has become a status symbol. It's the ultimate revenge of the nerds"

(Stoll, 1995:9)

A new technology has been introduced in the society and we have taken the step from the Post-Industrial Society into the Information Society. A new element has entered the arena, and the habitus developed in interaction with this relatively new technology I will in this thesis refer to as ICT habitus.

My assumption was that students at Berkeley would have a more highly developed ICT habitus, as they would have been exposed to the technology for a longer period of time. This would have given them more chance to catch up with the "lag" than the Blindern students. To better illustrate the supposed differences between the Berkeley and the Blindern student I decided to develop ideal types. As I have already mentioned; when Max Weber first used the notion of ideal types he associated it with the construction of pure cases to illustrate a conceptual category. In this sense ideal types are fictions. The ideal types I have constructed are thus based on the extremes
and serve to define the dimensions when dealing with the subjects whose responses are less "pure". The Ideal types can be summarized in table 4.1:

### TABLE 4.1: HABITUS IDEAL TYPES

| ICT                | Pre ICT Habitus                                                                 | Fully Developed ICT Habitus
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Computer as a tool</td>
<td>Only uses the computer as an advanced typewriter. Does not feel comfortable using it at all. Is completely lost if she encounters any problems using it.</td>
<td>Takes the computer for granted. Uses it in almost every task connected to her studies. Feels completely comfortable using the computer. Should she encounter any problems she knows instantly either how to solve them or where to get help solving them.</td>
</tr>
<tr>
<td>The internet</td>
<td>Does not use the internet at all if she can avoid it. Finds it confusing and incomprehensible. Is unable to find the information she is looking for. Feels uncomfortable using it and prefers more traditional methods of gathering information.</td>
<td>Uses the internet on a daily basis for various tasks. Has sites she visits regularly and know how to find the information she needs for her studies. Knows how to use search engines in an efficient and productive way. Feels completely comfortable using the internet. Also uses it for recreational purposes and shopping.</td>
</tr>
<tr>
<td>e-mail</td>
<td>Prefers face-to-face communication, using the phone and even writing letters compared to using e-mail. Does not like to use e-mail, as she does not trust that the person supposed to get the mail actually receives it.</td>
<td>E-mail is the preferred means of communication. Uses it both personally and to contact people in connection with her studies. Finds it less formal, less intrusive and infinitely easier to use than more traditional methods of communication.</td>
</tr>
</tbody>
</table>

(Source: Author's research)

None of the students in my data material fits either of the ideal types, but the Berkeley students are closer to the ICT habitus one, while the Blindern students on average comes slightly closer to the pre ICT habitus type, the most notable difference being

---

It is important to note that when I talk about a "fully developed" ICT habitus it is to mark the contrast to the pre ICT habitus. It is in the nature of habitus to be in constant change and development, and it can thus never be "fully developed" in the sense of being completed. The stage of development I refer to as "fully developed" is the stage where the use of the technology for the first time has become an internalised. A person working with ICT on a daily basis and thus possessing a highly developed ICT habitus would probably consider this definition rudimentary and basic. For the purpose of my analysis however, I will use this definition to highlight the changes from the pre ICT habitus and put emphasis on the process of developing a "rudimentary" ICT habitus.

---

7 It is important to note that when I talk about a "fully developed" ICT habitus it is to mark the contrast to the pre ICT habitus. It is in the nature of habitus to be in constant change and development, and it can thus never be "fully developed" in the sense of being completed. The stage of development I refer to as "fully developed" is the stage where the use of the technology for the first time has become an internalised. A person working with ICT on a daily basis and thus possessing a highly developed ICT habitus would probably consider this definition rudimentary and basic. For the purpose of my analysis however, I will use this definition to highlight the changes from the pre ICT habitus and put emphasis on the process of developing a "rudimentary" ICT habitus.
use of the internet. Something I will explore more closely in my analysis of the empirical data.

Ivar Frønes writes in his book "Digital Divide" that in the knowledge society inequality correlates with different abilities to take advantage of new possibilities and face new demands (Frønes, 2002:18). In this kind of situation the parents' cultural capital becomes more important than their economical capital when it comes to the child's achievements at school (Lie et al. as cited by Frønes, 2002:18). In the following section I will explore how this correlates with the concept of ICT capital.
4.2 ICT Capital

As previously mentioned one cannot talk about habitus without also mentioning Bourdieu's concepts of capital and field. The concepts of field and capital are linked very closely as the capitals value is determined by its corresponding field. Reading Bourdieu one will find that a field is constituted by a set of objective historical relations between positions deeply rooted in certain forms of power or capital, while habitus is shaped by a set of historical relations embedded in the physical body of the individual, represented by mental and bodily frameworks for observation, evaluation and action (Bourdieu & Wacquant).

According to Bourdieu an analyse on the concept of fields, should include three necessary and interrelated elements. First of all one should analyse what the field's position is in relation to the field of power. Secondly one should establish an objectively structure of relations between positions occupied by institutions competing with one another within the field. And thirdly one should analyse the habitus of the agents, the different systems of dispositions they have acquired through the incorporation of a fixed type of social and economic conditions and which in a limited lifespan within the field in question finds more or less favourable opportunities to play themselves out (Bourdieu & Wacquant).

The focus of my thesis lies within the ICT field, but as this is a very large and expanding field, which also spans and interact with many other fields of our society as well, this goes beyond the scope of my thesis. While it would be too time consuming to include an analysis of the ICT field, as well as hard to determine its role in the development of ICT habitus, the concept of ICT capital plays a rather important role in this development. I will now proceed to define my understanding of ICT capital, as this will be an important tool when analysing my findings later on. When one uses Bourdieu, studying how students use and relate to ICT the concept of ICT capital would define the tools used by the individuals and institutions, within the field to gain dominance and thus reproduce themselves over time (Lawely, 1994).

Looking for these tools I did indeed find factors I believe plays a very important role in the acquiring of ICT capital. Based on my findings I have tried to summarize the factors I believe influences the amount of ICT capital a person possesses. This can be viewed in table 4.2:
### Table 4.2: Types and Amounts of ICT Capital

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parents</strong></td>
<td>Know nothing about either using the computer or the internet. Have been completely indifferent in regard to whether the child uses it or not.</td>
<td>Do not have a lot of knowledge about how to use the computer. Have not learned how to use the internet in a productive way. Have encouraged the child in a small way, but without really understanding the technology themselves.</td>
<td>Use the technology at work. Know a lot about how to use the computer and has also learned to use the internet in a productive way as well. They have had a computer at home from early on and have encouraged the child to learn how to use it.</td>
</tr>
<tr>
<td><strong>First time</strong></td>
<td>Used the technology for the first time at the university. Had to use it in order to write papers.</td>
<td>Was first introduced to the technology in school. Used it then primarily for simple programming and typing classes.</td>
<td>Encountered the technology for the first time as a child at home in a recreational setting. Introduced it to by a family member.</td>
</tr>
<tr>
<td><strong>School</strong></td>
<td>Encountered it at university.</td>
<td>Encountered it in high school either as part of the curriculum or as an optional subject.</td>
<td>Encountered it in primary school as part of the curriculum.</td>
</tr>
<tr>
<td><strong>Access</strong></td>
<td>Has neither a computer nor internet access at home.</td>
<td>Has a computer at home but is dependent on the university for internet access.</td>
<td>Has both computer and internet access at home.</td>
</tr>
<tr>
<td><strong>University</strong></td>
<td>Does not expect or demand that its students use the technology.</td>
<td>Expects and demands that its student use the technology to some degree.</td>
<td>Expects and demands that its students use the technology extensively.</td>
</tr>
<tr>
<td><strong>Ability to learn</strong></td>
<td>Has trouble learning new things and is afraid to try out new solutions</td>
<td>Manages to get along</td>
<td>Picks up things easily and is not afraid to try out new solutions</td>
</tr>
</tbody>
</table>

(Source: Author's research)

A person can in this way score high on some factors, medium on some and low on others. How much ICT capital she possesses is therefore based on how high her total score of these factors is. The total ICT capital of the subject is thus the sum of these resources. I will now proceed to look closer on the different factors, how they interact and how their individual scores affect the total amount of ICT capital the subject possesses.

To clarify and simplify I have decided to divide the above factors into four categories; background, resources, surroundings and motivation.
4.2.1 Background
How early in life one encountered the technology for the first time is part of one's ICT capital. Encountering the technology as a child at home is a great asset, especially if one's parents are knowledgeable and encouraging as well. This builds a strong foundation for further development. Encountering it in primary school is an asset as well. This is also enhanced if the teacher in question is knowledgeable and encouraging. Again this contributes to the foundation from which the development of ICT habitus begins.

4.2.2 Resources
Information and Communication technology is not cheap. This was particularly true in the case of the first generation of personal computers. If one was not "filthy rich", one could not afford one, unless it was through work. Having access to a computer at home or at school was thus an important asset. It gave one the opportunity to develop a familiarity with the technology. Having a computer and internet access at home is thus an advantage in the development of ICT habitus.

4.2.3 Surroundings
Since no one exists in a vacuum our surroundings also influences and contributes to our development. In this study the university plays an important role as part of my subjects surroundings. How the surrounding contributes to the development of ICT habitus is part of the persons ICT capital. This capital may be high or low dependent on the contribution of the surroundings. My assumption was that students at Berkeley would receive more support and nurturing in the use of ICT that Blindern students would. In order to more easily explore this supposed difference I developed ideal types describing the universities as surroundings. These can be summarized in table 4.3:
### Table 4.3: University Ideal Types

<table>
<thead>
<tr>
<th>Available assets</th>
<th>Low on nurturing an ICT habitus development</th>
<th>High on nurturing an ICT habitus development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Computer labs</strong></td>
<td>This university does not have enough computers in proportion to the student mass. The computers are old and in poor condition. Not all of the students have access to the computer labs.</td>
<td>This university has a sufficient number of computers in proportion to the number of students. The computers are up to standard and easily accessible to all the students.</td>
</tr>
<tr>
<td><strong>internet connection</strong></td>
<td>This university does not have enough server capacity. The internet connection is slow, and the servers often crash. Not all the computers have an internet connection, and those that have are not available to all the students.</td>
<td>This university has a fast and reliable internet connection. The servers have enough capacity to handle the internet connection without problems. All the computers are connected to the internet, and accessible to all the students.</td>
</tr>
<tr>
<td><strong>In teaching</strong></td>
<td>In this university the use of computers, the internet and e-mail is not a part of the educational setting. It is seldom used in classes, and the students are pretty much on their own in dealing with the technology. They are not given any guidelines, and neither encouraged nor discouraged in using the technology.</td>
<td>In this university the use of computers, the internet and e-mail is incorporated in the classes. It's a natural part of the educational setting. In the beginning of their studies, students are given advices and guidelines in how to deal with the technology. After a while it's taken for granted that the students know how to handle themselves in dealing with the technology.</td>
</tr>
<tr>
<td><strong>Courses</strong></td>
<td>The university only offers a very limited number of basic courses regarding the use of computers and the internet. The courses are available to most of the students, but very few know that they exist.</td>
<td>This university offers a variety of free courses in the various uses of the computer and the internet. These courses are available to all the students, and the fact that they are available is also widely known among the students.</td>
</tr>
</tbody>
</table>

(Source: Author's research)

As was the case with my subjects, none of the universities fits either ideal type. Blindern however is slightly closer to the first type while Berkeley is closer to the second, and even more so than was the case with my subjects. This is also something I will explore more thoroughly when analysing my findings in the next part of this thesis.
4.2.4 Motivation
This relates to a sort of drive within the person. It contains a wish to learn more, to try harder and to better one self. A high score in this category goes a long way in compensating for low scores in "Background", "Resources" and to a certain degree "Surroundings".

4.3 Analytical Perspective
When I decided that I wanted to look closer at how students used computer technology in their everyday lives I set out to do an exploratory study, developing my interview guide accordingly. There were basically three factors I wanted to look more closely at:

- When, where and under what kind of circumstances was the technology encountered for the first time?
- What kind of use of the technology?
- How is the relationship with the technology perceived?

I had an idea that these three factors were important, and as my work progressed I became convinced that the answers to these questions would provide insight in to the development of ICT habitus. As I now proceed to present my findings the answers to these questions is a recurring feature through my analysis. Based on my findings I have developed a three-step model in the development of an ICT habitus. This can be summarized as follows:

**The three steps towards developing an ICT habitus:**

- Learning how to push the buttons
- Learning how to do something useful with the technology
- Advanced use of the technology

To visualize the three stages that correlate with the three steps one need to acquire in order to develop an ICT habitus, I have constructed the following figure:
The figure shows how my subjects, starting out with no ICT habitus at all, encounter the technology for the first time, the initiation. Then it shows how they through trial and error get familiar with the technology and learn how to use it for specific purposes. Finally it shows how some of my subjects reach a point where they are very close to a fully developed ICT habitus, and at the same time, not quite there.

This last stage "Almost there", is recognised by step 3; "Advanced use of the technology. As I am going to use the concept of "Advanced use" when analysing my findings later on, a definition of how I interpret this kind of use might be in order. It is difficult to give an exact definition of what "advanced use of the technology" constitutes, but returning to my ideal type of a fully developed ICT habitus, looking at the kind of use it represents, may help\(^8\). The only thing that separates the one kind of use from the other, is the internalising of the use of the technology it self. With a fully developed ICT habitus the use of the technology is internalised to the point where one takes the technology for granted, and is entirely comfortable using it. Essentially this is what lacks at the "Almost there" stage. Bearing this in mind a definition of "Advanced use of the technology" can be summarised in table 4.4:

---
\(^8\) Again it should be noted that my definition of "advanced use” relates to the parameters I sat down when defining my interpretation of "fully developed". In another setting my "advanced use” might be perceived as the minimum skill level one ought to possess.
### Table 4.4: Advanced Use of the Technology

<table>
<thead>
<tr>
<th>ICT</th>
<th>Advanced use of the technology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The computer as a tool</strong></td>
<td>Uses it skilfully* on a daily basis for tasks connected to her studies. When she encounters problems she knows either how to solve them, or where to get help solving them.</td>
</tr>
<tr>
<td><strong>The internet</strong></td>
<td>Uses the internet on a daily basis for various tasks connected to her studies.</td>
</tr>
<tr>
<td></td>
<td>Has sites she visits regularly and knows where to find the information she needs for her studies.</td>
</tr>
<tr>
<td></td>
<td>Knows how to use search engines.</td>
</tr>
<tr>
<td></td>
<td>Also uses the internet for recreational purposes.</td>
</tr>
<tr>
<td><strong>e-mail</strong></td>
<td>e-mail is the preferred means of communication.</td>
</tr>
<tr>
<td></td>
<td>Uses it both personally and to contact people in connection with her studies.</td>
</tr>
</tbody>
</table>

* With "skilfully" I refer to the way in which the tasks are being solved. As word processing is the software most utilised by my subjects, how they use it is of importance. Using it only as an advanced typewriter with editing possibilities does not fall within the "advanced use" category. In order to define the use as "skilful" and thereby "advanced", one needs to take the use a step further, taking advance of all the different aspects of the software, achieving one's needs in the best possible way.

(Source: Author's research)

In the following section of this thesis I will examine these stages more closely. I will begin by looking at the first stage; the initiation. Here I explore the correlating step; learning how to push the buttons. I present my findings related to this stage, and I also look at the role played by ICT capital at this stage. From the initiation I will proceed to the stage of trial and error, where one learn how to do something useful with the technology. I will also in this segment include the role of ICT capital in the analysing of my findings. Then I continue to the stage I have called: Almost there which encompasses advanced use of the technology. At this stage as well as the others, ICT capital plays an important role in regard to the development of ICT habitus among my subjects. Towards the end of the thesis I will therefore explore the influence of coercion and motivation. As I believe the informants' relationship with the technology plays an important role in this discussion I will include some additional empirical data as I believe this will help illustrate my point.
5 The Initiation

As mentioned in the introduction I choose to study my own generation because they are the ones that have almost, but not quite grown up with the technology. If I were to look at the generation following my own the picture would be quite different. Since I did my interviews new technology has gained ground within society. On the social level SMS\(^9\) has in many ways taken over and changed the role e-mail had in communicating with friends. Also, the generation following mine has to a greater extent grown up with the technology while the subjects of my thesis were born into a society with almost no trace of an ICT habitus. Thus their development of ICT habitus has happened more or less simultaneously with the technology being introduced to the society at large, and their lives in particular. A very important prerequisite to develop an ICT habitus is being in contact with the technology itself. In this chapter I will explore how my subjects encountered the technology for the first time, and the impact this first encounter may have had on their development of an ICT habitus. In addition I will also study how the subjects possession of or lack of ICT capital influences this same development. Finally I will examine how the development of ICT habitus is affected when the first encounter is not the beginning of regular use.

5.1 Learning how to push the buttons

The first step is simply to get comfortable using the keyboard, the mouse and just basically turning on the computer. This may seem like a very simple and obvious thing to do, but for a person lacking ICT habitus this is not the case. When I started studying sociology the fall of 1994 at the university of Trondheim I decided to participate in a computer course. It was a small sort of "Start-up" course over two evenings where one was taught the basics of word processing. I felt I knew very little about computers although my dad brought home our first, very simple personal computer, a Sinclair Spectrum in 1983, and we have had a PC at home ever since. I soon discovered that by knowing how to turn on the computer and double-clicking the mouse, things I took for granted I was actually very skilled compared to most of the others in the course.

\(^9\) Short Message Service, used to write text messages on mobile phones.
One of the participants, a lady in her late forties actually left in a rage, 20 minutes into the class because she simply could not manage the double-clicking of the mouse. One of the points of habitus is that when one possesses it one simply takes it for granted. To put it in the words of Waquant and Bourdieu:

"The social reality exists so to say twice; in the thing and in the mind, in the field and in habitus, in and outside the agents. And when habitus enters a social world of which it is a product then habitus thrives like a fish in the water and the world is perceived as something that comes by itself, something obvious."
(Waquant & Bourdieu, 1995:115)

Children today who grow up with the computer often learn to use it at a very early age, for them using it is the most natural thing in the world. Most of my informants however encountered the computer at a later stage in life, as I will soon illustrate. The keyboard in itself is not the highest barrier. In many ways it has a lot in common with the keys of a typewriter, and is therefore familiar. The difference is the anxiety that something "bad" will happen if one presses the "wrong" button. The fear that by pressing a button, any button the computer will blow up, or break down. So although the keyboard in some ways is familiar one has still to learn to get comfortable using it. In comparison to the keyboard, the mouse is something new. And using it is actually a skill that needs to be learned. Having learned it one takes it for granted, but this is still the first step in developing an ICT habitus.

5.2 The three arenas of initiation

Going through my findings I discovered that there are basically three arenas where one could first encounter the technology: as a child at home, at school or as a student. The setting and the circumstances where one encounters the technology for the first time may influence one's relationship with it later on, and thus also one's development of ICT habitus. I will now proceed to examine these three arenas and my subjects' experiences with them, a bit more closely.
5.2.1 As a child at home

When encountering the technology as a child at home, playing games is mostly what one uses it for. The advantage of encountering the technology at this early stage is the easy acquiring of step one: "learning how to push the buttons". In order to use the technology to, for example play games, one needs to learn how to use the keyboards and at present time, the mouse. The motivation to learn is strong, as the use, being entertaining, is a reward in itself. One of my Blindern subjects Dina, describes the experience in this way:

"It was fun. I had played the small kind of electronic games… but this was much more fun… with a bit of graphic and… I had a "Donkey King Jr." game, but here it was possible to play on 8-10 platforms if one wanted to…"

(Diana)

This first encounter is thus where the process of internalising the technology begins. One develops a familiarity with the technology and sets out on the path to develop an ICT habitus.

The first encounter

Blindern

When it comes to the first encounter, my Blindern subjects encountered the technology for the first time between 6 and 18 years ago. For most of them this happened 9 years ago. Almost all of them used it primarily for playing games. A little over half of them were between 11 and 14 years the first time they encountered the technology.

Berkeley

The picture is a little different for my Berkeley subjects. They encountered the technology between 14 and 19 years ago. Most of the Berkeley subjects were between 4 and 11 years at the time they encountered the technology for the first time. For most of them the encounter was about 17 years ago. Almost all of them also encountered the technology in a school setting around the time they first came in contact with it, and what they mostly used it for was simple programming. One of my Berkeley subjects Beatrice remembers using the computer for the first time like this:
"I remember doing a little bit of… sort of learning how to do really simple programming… like I remember there was something where you got the computer to play Craps… where you'd make it draw these pictures of dice, and then you'd type in "run" or something…

(Beatrice)

I will come back to this in the next section where I study encounters with the computer in a school setting.

The parents
Another important factor at this stage is the parents. As previously mentioned the parents are one of the factors that can serve as an asset in the ICT habitus development.

Blindern
Among my Blindern subjects a common feature is that most of the parents have had little or no knowledge about the use of computers. Anne, who did not encounter the computer till the age of 19, claimed that her parents did not encouraged her at all, and it was only in the last couple of years that her mother had owned a computer. Her father has never even used a computer, and she feels they simply do not relate to the technology at all. Beate who was introduced to the technology by her father at the age of 14 expresses similar views. She even claims that her mother has suffered as a result of being forced to use the computer at work. This, in itself is interesting as the reason for the "suffering" is her mother's obvious lack of ICT habitus, a lack due to the fact that she has previously not had anything to do with the technology. Beate describes her mother's situation in the following way:

"My mum has had to use the technology in her work, and has found it very hard and exhausting to learn. She has to use it to keep journals among other things, and she is used to do this by hand… and now she is forced to use a computer, and she doesn't understand how it works, she struggles with it, and as far as I've understood she finds this very uncomfortable…"

(Beatrice)

This is a classic example on a person taken out of the familiar and thrown into a situation where she has no habitus to help her cope with the changes. Despite this her mother has been encouraging in a vague kind of way, probably out of a wish that her daughter should be better off than herself.
Cecilie who did not encounter the technology until starting her studies has never had any encouragement from her parents and when asked how her parents relate to the computer answered the following:

"I don't think they understand a thing about it."
(Cecilie)

Dina and Elin are the ones that have received the most encouragement and help from their parents. They both encountered the technology at the age of 11, and both of them have one parent who has used the computer a lot at work and is genuinely interested in the technology.

The situation for Frida is a little different. She encountered the computer for the first time at the age of 20, and although her father was the one who introduced her to it, she feels he is not entirely comfortable with the technology. She describes it in the following way:

"I think he has sort of a distance relationship with the computer, because he has not grown up with it and has not studied it either… but… I only notice it when he is helping me with something as it very often ends in chaos, because he really doesn't know how it works, like on the inside…"
(Frida)

Grete again was introduced to the computer at home rather early, at the age of 13, but when asked if it was her parents who introduced her she replied as follows:

"Not really. They bought it, it was my father who got an offer through his work, but I don't think they ever used it, it was more for my sake."
(Grete)

I followed up by asking her what her parents' attitude to her use of the computer was like, and this is what she answered:

"It has of course been encouraging… it's just that they don't understand any of it themselves."
(Grete)
Berkeley

Among my Berkeley subjects the tale is a little bit different. Most of the parents here have been a bit more "hands on" encouraging in the way they have created a learning environment at home or sent their children to computer courses. This holds especially true for those who used the technology in their work environment.

This is not the case for all. Amanda's situation was a little bit like Grete's, her father was the one who bought the computer when she was 7, but Amanda was the only one who ever used it. She believes her parents saw it as a toy at the time, and they never really took that much interest in it.

The situation for Evelyn who encountered the computer at the age of 9 was somewhat similar. Her parents never especially encouraged her as such, but her father did create an environment at home that enabled her to learn on her own.

The parents of Beatrice, Courtney, Diana and Gabby on the other hand, have been very encouraging. Beatrice describes her parents' encouragement in the following way:

"Dad particularly was real encouraging, because it was sort of his toy for a while and... we always ended up having computers around somewhere... my mother was a school teacher when I was small... and then took some time off, and... so they were both teaching, and since then, they've both sort of gone into computer type careers... within education... so... they were pretty... my dad particularly, were pretty encouraging..."

(Beatrice)

Courtney's parents sent her to a programming class where she encountered the computer for the first time at the age of 15. They were also the ones who bought her, her first computer when she started at the university. Diana's mother was a bit indifferent at first, but after she started using the technology at work she became very encouraging. When it came to Gabby's parents it was her mother who contributed most on the computer field, as Gabby told me:

"My mum has always been very for computers, she taught me how to use it, my dad never touched the computer..."

(Gabby)

When it came to the previous generation in Gabby's family the picture was definitely different. She told me the following tale:
"My grandfather was a preacher and I remember coming home, and I was so excited about the computer, and he was like: "Soon the computers are gonna bring about the downfall of our civilization because pretty soon they're gonna be writing my sermons for me!" he believed that the computer would start writing his sermons for him… and he wouldn't write his own sermons… and my grandmother is definitely afraid of computers…"

(Gabby)

This again is an example on how we fear what we do not know. Being thrown into the "ICT society" with a pre ICT habitus can be a confusing and frightening experience, and Gabby's grandfather's reaction is not so strange seen in the light of this.

All in all there is no great difference between the Blindern and the Berkeley subjects at this particularly stage. The difference one does find seems to lie in the fact that The Berkeley subjects are a bit ahead of the Blindern subjects. They encountered it on an average a bit earlier, their parents started using it at work a bit earlier and thus the Berkeley students have got sort of a head start. This does so far correlate with my theory that the Berkeley students are a little bit further along due to an earlier initiation and I will continue to explore this small difference through the next sections of the thesis.

5.2.2 In school
For those of my subjects who encountered the computer for the first time in school the use was a little different. Only two of my Blindern subjects Dina and Elin, encountered the technology at school. Among my Berkeley subjects most of them encountered the technology for the first time in a school setting, and almost all of them used it for simple programming. This is also typical for this generation. The personal computer was a new thing and one believed programming was the future. Nowadays programming is not a skill one needs in order to operate a computer. At school children are taught to use the computer in a completely different way. It is also more common to encounter the technology at school in addition to the increase of personal computers in the average household.

The fact that most of my Berkeley subjects were taught simple programming is rather interesting and I think some of the reason may be found in the discussion Sherry Turkle refers to as "transparency versus opaque" (Turkle, 1995:36-37). This goes back to the early to mid-eighties when the Macintosh with its icon based interface
challenged the MS-DOS operating system of the IBM personal computer. The popular characterization by the Macintosh users was that the simulation that made up the Macintosh's desktop interface felt like a "transparent" access to functionality. The people swearing to the IBM command-based style of computing objected to this view. For them it was the Macintosh's iconic interface that was opaque and the IBM's MS-DOS operating system that deserved the label "transparent", as it invited some access to the inner workings of the computer. The command-based operating system gave them a feeling of control over the technology (Turkle, 1995:36-41).

I believe it was this kind of "ideology" that put programming on the timetable. With the introduction of Microsoft Windows in 1985, a software program that was intended to give a computer using the MS-DOS operating system something of a feel of the Macintosh interface, I think some of the foundation for the discussion crumbled. There probably still are a lot of people who prefer to communicate more "directly" with the computer, but this is no longer seen as a necessary skill in order to use the computer.

Having encountered the computer for the first time in school served the same purpose as for those who encountered it at home; a familiarity with the computer and its buttons. I also believe that because they used it in a purposeful way, and saw results of their use, this lead them one small step closer to developing an ICT habitus.

As mentioned only two of my Blindern subjects encountered the computer in school, although almost all of them have a vague recollection that it was possible to take an optional subject of some sort concerning computers. These classes were offered at junior high school or at high school. Dina was one of the two who actually participated in such a class and this is her recollection of it:

"I had a optional subject two hours a week in high school… it was more like a short introduction to word processing, which I already knew how to do… looking back I probably took it to boost my grades…"
(Diana)

Elin, the other of the two was also taught word processing in the optional subject she chose to take the last year of junior high school.

All my Berkeley subjects who encountered the computer at school, encountered it earlier in elementary school, one of these were Diana and she describes the experience like this:
"Well, the first time I ever used a computer, I think was in elementary school... so I was about... maybe 10 or 11... and... it was one of those PET computers... PET, I don't even know what it stands for... and you just fooled around with math... just plugging in different codes and things... like very, very simple programming..."

(Diana)

Gabby, another of my Berkeley subjects who encountered the computer for the first time in school, told me the following:

"I was in the gifted and talented program, so they took like the smart kids out, and put us on computers... you know, because they thought we could do it... and then they taught us just basically how to program, and get like a little triangle to move round the screen, I thought it was great fun, I had a wonderful time... that was my first memory, I thought it was... I had a good time with it... felt very comfortable with it..."

(Gabby)

This also illustrates another difference between Norway and The USA. In Norway we subscribe very much to the equality ideology. Children are to be treated equally and the progress of the education is adapted to the "slowest" pupil.

Another cultural difference so to say, which may or may not have influenced the earlier encounter and greater access of computers in the US schools, is the fact that Macintosh in the mid eighties gave away computers or sold them for a very low price to schools. The idea was that if the children learned how to use a Mac, they would also buy a Mac and not an IBM later on in life. Still, as I will get back to by the end of this chapter, I do not think either of this factors have contributed much in the difference between my Berkeley and Blindern subjects when it comes to the degree of ICT habitus they possesses.
5.2.3 As a student

Of my subjects only two of them encountered the computer for the first time as they started their studies. Cecilie, one of my Blindern subjects, encountered it her first year as a student. She took a course where they were required to write a paper using the computer. In order to enable them to do this they had a short introduction course in how to use the computer for this purpose. When asked how she experienced this first encounter Cecilie answered like this:

"I thought it was fun. It was of course a bit difficult to understand everything… but it was learning something new and it was kind of fun… fun to learn, you know…"
(Cecilie)

Fiona, one of my Berkeley students encountered it in an undergraduate class where she had to use a computer in order to compile some type of survey results. I asked her how she experienced this, and if they were given any instructions in how to use the computer, and this is what she replied:

"The main purpose of the course wasn't to use a computer, but the computer was just a method of getting these particular results… so I think some limited instruction… whatever commands to use, and… that type of things… it was incredible limited…"
(Fiona)

Although most of my subject encountered the technology at various stages before starting the university, virtually none them started using it on a regular basis before this time. This is also another point where the Berkeley students differ from the Blindern ones. The Berkeley students on an average started using the technology regularly a bit earlier in their studies than the Blindern students, and I believe this in accordance with the fact that the Berkeley students overall came in contact with the technology in a higher degree than the Blindern students, before starting their studies is one of the main reason why the Berkeley students is closer to developing an ICT habitus than the Blindern students are, as I will show later on. Another important factor I think contributes to this difference, is the amount of ICT capital provided by the surroundings. This is a factor I will continue to explore through the following sections of my thesis.
5.3 The impact of the initiation vs. regular use

I have now described the three arenas where my subjects encountered the technology for the first time. As mentioned I see the initiation as the first step on the path towards developing an ICT habitus. However, and this is important, if the first encounter is just that, an encounter, the process is halted there and then. In my thesis I look at the generation who has almost, but not quite grown up with the technology. Some of them encountered it for the first time in childhood, either at home or in school, but for almost none of them, was this encounter the start of regular and everyday use.

As I see it, the major difference between my subjects and children growing up today is that now ICT is very often an integrated part of their life from an early age. They start using it regularly in childhood and continue using it. Their use developing as their needs change. Playing games at first, communicating with friends later, using it for school projects and homework, etc. In this way the technology becomes a natural integrated part of their everyday lives and the ICT habitus is so to say developed alongside with table manners. The book "Children Conquer the Computer" (Appelberg & Eriksson, 2001) is dedicated to accomplish just such a development through exposing children to computers as early as in the kinder garden.

The story of my subjects is as one can see, a little different. Although some of them encountered the technology rather early in life, this has not had as great impact as it might have. At first I thought the difference between my Blindern and my Berkeley subjects was due to the fact that the Berkeley students on an average encountered the technology earlier then the Blindern students. I still believe this is a small part of the reason, but since the first encounter was not the start of regular use for either of the groups the difference in time of this occurrence makes the impact minimal. The fact that the Berkeley students started using the technology regularly on an earlier stage of their studies than the Blindern students however, is significantly more important. In the next chapter I will examine more closely the second step one must attain in the process of developing an ICT habitus. I will look at how my subjects start to use the technology for specific purposes and the factors, like ICT capital, that influence this process.
6 Trial and Error
In this chapter I'm going to try and follow the subjects development of ICT habitus by examine the second stage in this development. I will look at how they learn to do something useful with the technology and also take into consideration the different factors connected with ICT capital, which may have helped or hindered their progress.

6.1 Learning how to do something useful with the technology
The second step is learning how to do something useful with the technology. Just pushing the buttons and double clicking the mouse will not be sufficient to develop an ICT habitus. Using the technology purposefully however will get one a step closer. How one uses it depends a bit on when one encounters it. As I demonstrated in the previous chapter, my subjects encountered the technology either as a child at home, at school or as a student. When encountered as a child the most frequent use among my subjects was playing games, in school simple programming was what it was used for and as a student, writing papers was the most common use. When children today encounter the technology the game playing is often the start of using the computer on a regular basis. This is not the case with my subjects. Although some of them encountered the technology as a child, either at home or at school none of them started using it on a regular basis until much later. In fact almost all of them only started using it on a regular basis as a student, having to write papers as part of their studies. I will now observe more closely the process in which my subjects gained the second step on their way to developing an ICT habitus.
6.2 Trial and error

The second step is located at what I call the trial and error stage. This is the stage where the subjects figure out how to use the technology in their studies through trial and error. Even though some of my subjects encountered the technology at school none of them found that this experience has been useful in teaching them what they needed to know in their role as students. This is the stage where they start to use the technology on a regular basis, and also have to learn how to use it in a productive way. To better understand this process I will now examine the way in which my subjects have learned to use the technology, how they envision learning more, and who they turn to when they run into problems using the technology.

6.2.1 How did they learn?

All of my Blindern subjects as well as my Berkeley students declare themselves as more or less self-taught. Most of them claim they have learned through trial and error. Some of them have had additional help from others; friends, boyfriends or even parents.

Blindern

Anne, Diana and Grete have learned on their own, with a little help from friends. As Anne puts it:

"I have in a way learned a little every time I've encountered something I have wondered about, in connection with writing which is mostly what I use the computer for. And then I've gotten sort of tip-offs from my boyfriend, and some from friends but I haven't attended any courses or such"

(Anne)

Cecilie, Elin and Frida are mostly self-taught having learned through trial and error. In addition they have also asked some help from others. Cecilie has asked friends and fellow students for help. Elin has received some help from her mom, some through school and a little from friends and Frida has asked some help from her boyfriend. Beate started out as self-taught and has done some "teach your self" courses. Later she learned a bit through her studies and she has also attended the e-mail account course.\(^\text{10}\)

\(^{10}\) This was a mandatory course one usually had to attend in order to get a user ID.
in addition to receiving some work related courses. She feels that the learning process has influenced the way she uses the technology today, and expresses it like this:

"I feel I have a greater understanding of what I'm doing and what the different aspects of the computer and the technology can do for me, and how I can adjust the technology to fit my needs... at least to a certain degree... I know my limitations..."

(Beate)

**Berkeley**

Several of my Berkeley subjects have at one time or another participated in a course on how to use aspects of the technology, but none of them felt they had gained anything useful from this experience.

Amanda and Diane have mostly learned what they know by playing around with the technology and figuring it out for themselves through trial-and-error. Although they say they prefer this way of learning, it sometimes poses problems, as expressed here by Diane:

"I just got a new computer recently and I'm learning how to trouble shoot and stuff, but it's very much like "trial-and-error" you know, one thing at a time, and if there's a major problem... I had virus trouble... and I really didn't know how to solve it. It took me like a month, to get rid of a virus. And for some people... they just know exactly where the website is, exactly how to use the virus scan, and how to download things. I've never had a formal teaching at all in computers... I've never taken any computer class... not even basic anything..."

(Diane)

Beatrice Courtney and Fiona have mostly learned from trying to figure out stuff on their own through trail and error, poking around, trying different things and talking to different people, having them showing them the basic features and then figuring it out from there. As Courtney puts it:

"It's not like looking in a book, and say: "Oh yeah! This happened, this is the problem..." it's all sort of, trying to figure it out... try different things, talk to different people..."

(Courtney)

Evelyn has mostly learned things on her own. She feels the stuff she was exposed to in school has not been very helpful later on, apart from making her a bit more
comfortable with the technology. A lot of what she has learned, she says she has learned by watching other people:

"Being able to have the computer set up the way you want to... and being able to do things quickly and efficiently, there's so many things I've learned by watching other people. I've been thinking: "Oh! That's a really good shortcut!" and all the time when I'm using the computer, I think often, like: "There's probably a much faster way to do this, and I just don't know it!""

(Evelyn)

Gabby says her mother has taught her a lot of the computer skills she knows. Apart from that she usually learn stuff by reading the manual or asking a friend or her mom.

**Summary**

Learning something new is in itself often a process of trial and error. What makes the learning of ICT special in this setting is the level of trial and error. My informants more or less had to learn how to use the technology on their own. Many of my Blindern subjects delivered hand written papers until they started on their masters thesis. At one point, however it became a requirement that papers should be machine written. The interesting part is that there was no immediate support system to help students meet this demand. The university did provide computer labs and such, but courses came eventually, and many students were (and are) not aware of their existence. To give an extreme example for comparison; imagine it suddenly became a requirement that students had to know how to drive. Instead of organised driving lessons and such, a couple of cars would just be made available to the students and then it would be expected that they would learn how to use them trough trial and error, on their own.

Even thought one really cannot compare learning to use the computer with learning to use a car, the example does apply as an illustration. As students they were required to use it in their everyday lives, and yet there were no support system ready to teach them. That as well was developed along the way. I believe this is a result of the technology not yet being properly incorporated into society.
6.2.2 Would like to learn

Blindern
This is a point where my Berkeley and Blindern subjects differ. What most of my Blindern subjects express a wish to learn is how to use the search engines in a better way. As Cecilie answered when I asked her what she would like to learn:

"I wish I were better at doing searches on the internet... to know where to find information..."
(Cecilie)

Many of them would also like to learn how to use the other office applications and to learn more advanced use of word processing. One example is Frida:

"I would like to learn some of the other programs in the Office package, like excel. I think it would be an advantage when applying for jobs, that one knows the different programs. At this point I'm very uncertain as to what the computer really contains of software, so I would really like to learn more."
(Frida)

Several of them also wish to learn coding in html. This is what Dina answered on the question of what she wished to learn:

"That would be to learn html, make my own home page, do some programming… that would be exiting."
(Dina)

I believe that the html coding part is due to the fact that this was the latest fad when I did the interviews, which shows that there is fashions in the field of ICT too.

Berkeley
In contrast to the Blindern students, almost all of the Berkeley students feel that they master their everyday use of the technology and wish to learn additional skills like programming, web-design, more about the hardware itself, statistics programs etc. Beatrice for example would like to learn some standard programming language, as she says:
"Sometimes I would really like to learn, you know, some standard programming language like C++, or something like that, just because I think it's sort of one of these skills that's really good to have… and even thought I'm not doing anything that really requires it right now, I just now can see myself sort of getting into something where I really might wish I had that… and won't… and then I'll have to go work on it."

(Beatrice)

Evelyn would like to learn how to use the UNIX operating system, and she would also like to learn more about the different aspects of the computer itself, like RAM etc. When I asked her if there were any skills she would like to acquire, this is what she answered:

"Knowing some of the languages… for example my e-mail account is on something called Socrates here, and it's a UNIX system… and I don't know how to use UNIX at all. If I could, then I could do a lot more with that recourse. And the other thing is, I can never remember anything about… you know, RAM and all those different aspects of the computer… I just can't keep them straight, and that would be nice, although I don't really think that's so much a skill, I think it's more just learning it…"

(Evelyn)

And Gabby would love to learn how to put a web-page together, as there is a lot of money in that kind of stuff. She would also like to learn statistics programs, in her own words:

"Like, I would love to know like how to put a web-page together, like that kind of stuff, because I think that is a very useful skill… like learn whatever language you have to learn… I can't remember what it is… because you can make a lot of money setting up web-pages for people…"

(Gabby)

Again I should point out that the web-designing wish is probably related to the fact that at the time I did my interviews web-designers were making obscene amounts of money. Two years later almost all of them were fired.
6.2.3 How do they intend to learn?

When I asked them how they would go about acquiring new skills connected to use of the technology, the answers of my Blindern and Berkeley subjects were very similar.

**Blindern**

Of my Blindern subjects all of them believe that if they are to learn something new they will do so on their own, preferably getting some help from friends that know more than they do themselves. Although they all mention things they would like to learn, most of them do not want to "go out of their way" acquiring these new skills. This is what Frida answered, when I asked her how she would go about learning the things she wanted to gain knowledge of:

"It depends, I don't really know if I'm going to do anything to learn this other than maybe ask somebody I know who knows more than me. I don't think I will participate in any courses or anything. Maybe when I get a job I might be able to learn it through work. I don't think I will do much to learn it before then."

(Frida)

**Berkeley**

None of my Berkeley subjects think they would benefit from a course. All of them would prefer learning on their own or by asking someone who knows what they want to learn, to teach it to them. As Courtney puts it:

"I mean I learn basically on my own. I mean, not on my own-my own, of course I've always had someone showing me the basic features, and then I just figured it out from there. Sometimes I'll ask my husband, but it's more like I know that I just need to sit down, and take the time just to figure it out."

(Courtney)

Some of my subjects declare that they would not mind taking a course, but see no point in doing so. They feel that the courses one can take do not address the things they would like to learn. They are also afraid that the course will just cover things they already know, and thus just be a waste of time. Given this they prefer to figure it out on their own, struggling through obstacles and learning through trial and error.
"Mostly I think that the things that I would want to do, is so specific that it's not likely that there would be you know, classes that really teaches exactly what I was trying to figure out how to do. You know, I think I just generally like figuring out computer stuff on my own more, and just sort of poking around. It just doesn't seem like the advantage of taking a class would be very great…"

(Beatrice)

**Summary**

Apparently both my Berkeley and my Blindern subjects prefer to learn through trial and error, the only difference being that the Blindern students seem less eager to make an effort of learning something new. They feel they know enough to get by in their everyday lives. The Berkeley students seem a bit more eager to expand their field of use, and thus also their field of knowledge. This is probably due to cultural differences. The Blindern subjects expect to be taught what they need to know through work, while the Berkeley students want to learn more, to heighten their value as potential employees, possessing a higher degree of competitiveness than the Blindern students. I suspect that one reason my subjects prefer to learn through trial and error is that they know no other way of learning when it comes to ICT. As previously mentioned there was no support system ready to teach them at the time when using the computer became a requirement. The had to flounder along on their own, and now they have reached a point where they know sufficiently to make basic courses in the use of the technology a waste of time. Many of them do express a wish to learn through courses, they just do not see this happening. The only kind of course my Blindern students have any faith in are the ones they imagine they will be given through work, eventually. I believe that if my subjects had been given more tutoring in the use of the technology from an earlier age, like many children receive in school today, they might have a different approach towards learning, and probably a further developed ICT habitus. A similar study on children growing up today would probably shed more light on this assumption, but that is for further studies. As the situation is for my subject, courses are not viewed as a source of help. In the next section I will look closer at whom they do turn to when in trouble with the technology.
6.2.4 Who do they ask for help?

There is a strong similarity between my Blindern and Berkeley students also when it comes to whom they turn to when running into trouble using the technology. The manner of the problem often decides whom they turn to first. If they are at the university, and the problem is of a technical kind and there is a student help-desk available, that is a popular option. As Elin puts it:

"If there is trouble with the machine itself I ask the student help desk, if I can't save something, or I've lost something, or something like that happens. But when it comes to layout, if there are some new tricks on layout, then I often ask my fellow students, or friends. There are always someone who knows more or know something I don't know, or... so that's the best way to do it."

(Elin)

If there is not a help-desk available, and the problem is not with the machine itself, most of them would then try to ask some of the other students in the computer lab for help. The ones they all prefer to ask when a problem is of a non-technical character are their friends or boyfriends.

"I have a couple of friends who are pretty good at the computer, in my class… and I'll call them, and then, if they don't know I will call Computer Services or actually Gateway 2000, which is the company that my computer is from"

(Diana)

For some of my subjects however, encountering problems is just a little more than they can handle when dealing with the technology. If anything out of the ordinary occurs they tend to give up, especially if they have no close friends or help desk personnel present. This is how Grete describes the situation.

"If I'm on the second floor, I ask the person at the student help desk. If not... I don't know, then I often just turn off the machine and go home."

(Grete)

As shown in chapter four, this is one of the signs of a pre ICT habitus, and although none of my subjects fits the ideal types I constructed completely, my Blindern subjects are closer to the pre ICT habitus while my Berkeley subjects come closer to the ICT habitus one. This is something I will explore more thoroughly in the next chapter.
6.3 The influence of ICT capital

When starting to use the technology in a productive way the surroundings may influence this process. They may help by creating a nurturing environment or hinder by creating obstacles. Some of this may be grounded in economic considerations, but the knowledge and attitude of staff and professors may also play an important role. In chapter four I presented two ideal types describing universities as surroundings. One type that is low on the nurturing of ICT habitus development among its student, and one that was high on the nurturing of ICT habitus among its student. As is mostly the case with ideal types, non of them really fit the reality, but they make good tools in assessing the university on these parameters. In the following section I will look closer at how my subjects describe their surroundings ability to help them in their development of an ICT habitus, and thus how Blindern and Berkeley fit in, compared to the previously mentioned ideal types.

6.3.1 Blindern

In teaching
When it comes to attitudes towards students' use of the technology, my Blindern subjects generally feel that this is non-existing among the professors.\footnote{The only exception being one of my subjects, who has attended the "Web sociology" class. She describes the professor who gives that class as engaged in the use of the technology and, in her own words: "a bit more critical, questioning the impact of the technology on society unlike other professors I have talked with, whose views have been rather vague or non-existing" (source)} Except for the occasional incitement to send questions on e-mail, and some vague references to information that may exist on the internet, my subjects have received precious little information or encouragement in connection to their use of the technology in their studies.

The students roughly split into three groups regarding the professors' attitude. The ones that have met vague attitudes from the professors, the ones who cannot ever remember having heard professors say anything about the use of the technology and finally, the ones who if having encountered any attitude from professors, have encountered scepticism. In other words, it goes from bad to worse.
The first group is constituted by Dina and Beate, who feel that the professors' attitude toward the technology is mixed. Some seem to feel it is a necessary evil that one has to use while others seem to take it for granted, and thus see no reason to mention it. Dina like Beate belongs within this group and she also thinks the professors' attitude varies. Some of the younger encourage the students to send e-mails and post articles on the net. Others do not seem to even know the internet exists. As she puts it when asked how she perceives the professors attitude towards the use of the technology:

"I would say it varies immensely... some, maybe a bit younger lecturers have been like: "Send me a mail if you wonder about something" or they have posted their articles on the internet. But then there are others who really don't know anything about it..."

(Dina)

Anne, Frida and Grete belong to the second group and cannot remember anyone mentioning the internet. The only incitement Anne has ever received is communication through e-mail.

"I can't remember anybody mentioning anything about the internet at all... they might have, but the only one I remember was one of the main lecturer on the "General Theory" class, on the masters study. She sort of encouraged us to communicate with her through e-mail... but that was probably because she wasn't at the university most of the time..."

(Anne)

The final group is made up by Elin and Cecilie who feel that the professors attitude towards the internet is non-existing and in addition to this have encountered scepticism in regard to receiving documents as attachment to e-mail. Cecilie was left with the impression that they were afraid they would not be able to open the attachment, and Elin's coordinator prefers to get documents physically instead of electronically. In Elin's own words:

"Their attitude towards the technology has been more or less non-existing except for the fact that my coordinator prefers to get things on paper rather than on e-mail, documents and stuff. He likes to receive mails, I just think he finds it a drag having to print it out."

(Elin)

Elin also wishes that the use of internet as part of the society would come more into the lectures in general.
The Professors lack of ICT habitus does not come as a big surprise. They have all encountered it at a much later stage in life than my subjects. The problem might be, that the lack of ICT habitus development in the teaching staff may influence the students' development of ICT habitus in an unfortunate way. Encountering the technology late in life does not mean one is unable to fully develop an ICT habitus. It just requires a greater effort on the individual in questions part, and it also calls for support from the surroundings in form of courses and additional education in use of the technology. In the book "Children Conquer the Computer" there is put a lot of emphasis on the teachers' training in the use of the technology as well, for just these reasons. In a project description called "Future Children II and III" this is one of the requirements made of the teachers participating in the project:

"For those teachers participating in "Future Children II", the goal is for them to gain more knowledge and competence about today's information technology society, and how one can work with new technology in order to give the children qualifications to grow up in today's society. "
(Appelberg & Eriksson, 2001:102)

Blindern thus, when it comes to the technology being referred to and used in teaching, falls well within the "Low on nurturing an ICT habitus development" ideal type as described in chapter 4. The use of computers, the internet and e-mail is not, in any mentionable way part of the educational setting. It is seldom or never used in classes and the students are pretty much on their own when dealing with the technology. They are not given any guidelines and neither encouraged nor discouraged in using the technology.

**Courses**

All of my informants state that they know there are courses, they just don't know what kind, or how to enter for one. The only course all of them have heard of is the mandatory course one have to take in order to get a user ID, and the library course where one learns to use the library search engine. Most of them also have this notion that the courses are too basic, and thus would be pointless to attend, even thought they admit they know nothing about them.

Some of them however, also have other reasons for not attending the courses. Anne has never participated in a course. She, like the others has heard that there may be
some courses, but she does not know anything about this. She feels that at the level she is at, it is not necessary to take a course, and in addition she is afraid she would look stupid. She thinks she could have entered a course if she wanted, but feels she knows enough not to bother. This is what she answered when I asked why she had never entered in a course.

"Well… its probably just laziness, I think… well maybe a little laziness and a little that I feel that at my level I use the technology it's easier just learning from others. I'm also afraid that if I went to a course I would reveal how little I actually know about computers and that would have been very embarrassing… I've always thought that I use it for what's necessary and therefore I learn a little by little what I need to know."

(Anne)

Her main reason for not participating in a course is fear of being "exposed". She feels that she ought to know more although she also feels she knows enough to get by. Dina like Anne has not attended any courses at all. She got an e-mail account before the course got mandatory. She thinks there might be other courses but have no idea how to apply for one. Besides, she feels she knows so much that a course might be too elementary. Like Anne she do not feel like participating in a course, but the reason she gives is that she thinks a course would be too basic and thus a waste of time. This is a sentiment she shares with all the others of my Blindern subjects.

Cecilie and Frida only know about one course; the course one has to attend in order to get an e-mail account. Cecilie attended this course in order to get an e-mail account and unlike Frida, thought it was okay. She feels that at this point she knows everything she needs to know and has no intentions of taking any courses, unless her future workplace offers some.

Elin knows there are some courses, but is only acquainted with the e-mail account course and the library search course. Like Dina she thinks the courses are probably too basic, as she says:

"It's so basic that one sits there getting bored to death, and then receive a few helpful advises in the last five minutes."

(Elin)
Grete went to a one-day course once but did not find it particularly helpful. She does not remember much from it, but one thing seems to have stuck in her mind:

"Its typical when one attends a computer course; he was going to show us how to do things on the screen. He was supposed to do the things on his own machine and project this onto a screen... and of course this didn't work, and he had to go around and show everyone individually."

(Grete)

The only other courses Grete knows about are basic courses in Word and Excel at the start of the semester. Like the others, she is interested in learning Word on a more advanced level than these offer, and they are thus of no interest to her.

Beate is an exception to the rest, as she actually knows exactly what kinds of courses are being offered. She has had a part-time job at the university so she knows about the courses they offer. She does however point out that she did not know anything about them before she got the job. She has not participated in any of the courses yet, and do not intend to do so either. She feels she learns better on her own, and thinks the courses are too basic.

Also under this point Blindern fall within the "low on nurturing ICT habitus development". There are courses available, but most of them are pretty basic. Although very few of the students actually know that they exists, they still seem to believe that the courses are not for them. This is partly due to the correct impression that the courses are too basic. Most of them also seem to think they know enough to get by in their everyday life. This last sentiment can sometimes lead to stagnation in the development of an ICT habitus, and I will explore this further in the following chapter.
Computer labs
When it comes to the computer labs, all of my subjects find the computer access to be rather poor. This is something they all agree on, and this is what Beate answered when I asked her how she found the computer access:

"It's bad... especially the PC access, for master students it's very poor, but this is in fact also the case with the Macintosh access. It's just too many thousand students on each computer, or on each computer lab, really. It's not at all up to snuff... you have to wait in line to get a machine, so you have to estimate from half an hour to an entire hour just for that... It's just not good enough..."

(Beate)

Most of them do agree that the access improves a bit as one starts on the thesis, but only if one does not mind using a Macintosh instead of a PC. At the same time they all agree that when one does get a hold of a computer, the internet access is rather good. When asked about it, this is what Frida answered:

"It has been very good... at least as long as I've been in the masters program it's been very fast."

(Frida)

As previously mentioned resources are very important in order to internalise the use of the technology. In order to gain familiarity with it one needs to have access to it. Despite the poor computer access Blindern does not actually fit entirely within the "low on nurturing ICT habitus development" when it comes to the computer labs. The computer access is, as mentioned rather poor, as there is not nearly enough computers compared to the number of students, so on that account the ideal type fits. But the quality of the computes themselves are okay and the internet connection is rather good, so in that aspect Blinder lays closer to the "high on nurturing an ICT habitus development" ideal type. Unfortunately the access itself is the most important thing, as pointed out above, so all in all Blindern does not come that well out of it under this point either. It should be noted that the computer access has greatly improved since I did my interviews. Several new computer labs have been opened, all with computers of good quality.

Next I will look at how Berkeley fits within the constructed ideal types.
6.3.2 Berkeley

In teaching
Most of my Berkeley subjects feel they have got some sort of encouragement from professors or coordinators when it comes to using the internet. The majority of those whom have been encouraged by professors are left with the impression that although they are positive to use of the internet, they expect the students to be critical in their approach and use the internet in a sensible matter. In addition the technology is being actively used in the classes. It is a requirement that one has an e-mail address to participate in a class. The reason for this is that most of the assignments are posted to the students on e-mails. Often as part of the class students have to post questions on the week's reading to be discussed the next lesson.

My subjects roughly split into two groups when it comes to views on the professors' attitude towards the technology. A few of the Berkeley students have not met with any particular attitudes from the professors. The rest of the Berkeley students have received encouragement to use the technology and have clear views on Professors' attitudes on the use of the technology.

Courtney and Fiona who has not met either active discouragement or encouragement from any professors are the ones who fall within the first group. Courtney cannot remember the professors ever saying anything about the use of the technology at all. Fiona points out that one of the professors she works with does not use e-mail at all, but gives the following explanation:

"He's old, and he has probably just never bothered to use it. I don't think he's ever tried it... he's also someone who's kind of withdrawn from the campus... and from the academic rigmarole in general."

(Fiona)

In this respect Courtney and Fiona falls into the same category as my Blindern subjects Anne, Frida and Grete.
Amanda, Beatrice, Diana and Gabby however falls within the second group and have all at some point been encouraged to make use of the technology in their studies. Amanda has the impression that more and more professors use e-mail to communicate with the class. Also some of the seminars require that the students post questions on the weeks reading, to the rest of the class. She also feels that the professors are positive about the internet but guarded. She thinks they are more positive with graduate students because they trust that graduate students know the pitfalls of the internet and how to use it in a sensible manner. This is a view she shares with Beatrice and Diana. Diana believes the professors will encourage anything that would broaden the students' resources. She has had a spare time teaching job at the university and gives the following explanation as to why she thinks the professors are a bit more guarded when it comes to younger students' use of the internet:

"About a year ago I was teaching a public health course for new undergraduate students, and the one problem I found with the internet, is that students, when they are young, I guess they don't really often understand that… just because they got something up on the computer… that's it not necessarily a valid source… so they'd quote statements off of a computer, and sometimes never even say the site… the source they got it from… or they'd write down an internet site… and it would be something like: www.health.com, and they'd have no idea who was providing that information, they wouldn't know if it was… you know, the department of health services or some guy who'd decided to start some site on his own… that has no qualifications, so… I mean it was almost like a daily experience… whenever they'd turn in papers… I'd have to go over that same concept again, that; just because it was on the computer, doesn't mean it's true. So I think you have to know where the information is coming from, you still have to find the source, even if you have a website name… and a lot of people just, especially younger people… I think, believe that that's irrelevant if it came of the computer…”

(Diana)

Again I think the professors' level of ICT habitus, and attitudes towards the technology influences the students' development of an ICT habitus. I also believe that a major difference between Berkeley and Blindern is that at Berkeley there has been created an environment where both the students and the teachers have to use the technology. By using it in the classes it is not a question of whether one feels like using it or not, one has to. Only the professor not involved in the actual teaching, like the one Fiona mentioned can get away with not using the technology. This sort of
enforced motivation to use the technology is something I will discuss in more depth in the following chapter.

Evelyn, the last of my Berkeley subjects falls a bit between the two groups. She thinks there is a huge range when it comes to professors. Some of them are technologically in the stone age and others are really technology savvy and know a lot. She has, however never met any active encouragement or discouragement when it comes to the use of technology from any of the professors, but then again she has not looked for any.

Evelyn's description pretty neatly sums up the range of ICT habitus development among the professors, and shows that although Berkeley is ahead of Blindern in the use of ICT, they still have a long way to go as Berkeley in teaching does not actually fit the "high on nurturing an ICT habitus development" ideal type although it comes close. Use of the internet and e-mail is incorporated in the classes, and the technology is more or less a natural part of the educational setting. Quite a few of the professors are concerned with the students' use of the internet, and offer advice on proper use. Older students are expected to know how to use the internet in a sensible way.

**Courses**

Almost all of them are aware that there are courses being offered, but most of them have never taken advantage of this. Some of them give the same reasons as the Blindern student for not taking the courses; they feel they know enough for what they use the technology for, and feel that participating in a course would probably only be a waste of time as the course would probably be too basic. Others have not attended because the courses do not fit their schedule. A few of them have even attended courses and found them useful.
Amanda, Beatrice and Fiona fall into the first group. Amanda says she does not know how the situation is for undergraduates, but she knows there are some courses for graduate students. She has never taken advantage of any of these courses herself. She feels she knows the basics, and is afraid she will just spend a lot of time covering what she already knows. She also feels she knows enough for what she uses the technology for, and there is no use wasting time learning something she has no use for. This is how she puts it:

"For one thing I feel like I have at least a basic understanding of how to use those search mechanisms, and get the information I want… and secondly I haven't yet needed to get into anything more complicated… in terms of getting information… If I ever wanted to really work with one of these databases, or you know, really was doing some research thing… I don't feel like that's a couple of hours well spent, if I really, I don't need those skills…"

(Amanda)

Beatrice has never taken any courses as well and like Fiona she is not sure what is available. She believes the computer center offers some courses and is of the impression that if there's a specific skill one wants to pick up, or pieces of software one wants to learn, one can sign up for some sort of workshop or similar. The reason why she has not signed up for anything is that she feels the things she wants to do are so specific, that it's unlikely there would be any courses on that.

Both Courtney and Diana, falling into the second group, say they know there are some courses available but none of them have taken advantage of any of the courses because it would not fit into either of their schedules.

The last group includes Evelyn and Gabby. Evelyn states that she knows that the library offers some courses, and she has attended two of them. She found both of them very helpful, and she is thinking about taking one in how to better use the internet for searches, next semester.

Gabby also knows the library offers a lot of different courses in how to do searches on the internet etc. She took on of these courses and found it helpful although she felt that the people teaching the course went a little to fast, and in fact did not cover the basics as well as they might have done.
At this point Berkeley is not too far from Blindern. Berkeley also offers a variety of free courses in the various usages of the computer and the internet, but the courses are pretty basic. It seems like a few more of the students are aware of their existence on Berkeley than on Blindern though. Bottom line however is that when it comes to courses, Blindern comes closer to the "low on nurturing an ICT habitus development" ideal type.

**Computer labs**
In contrast to most of my Blindern subjects, who prefer to work on campus, some of my Berkeley subjects have never been to a computer lab at campus. They see to prefer working from home. One reason for this might be that local calls in the US are very often free of charge. Using the internet from home becomes very inexpensive, something that was not the case in Norway at the time I did my interviews. One of the things the Berkeley students really like about the internet is actually that it enables them to work from home. Of those who have been to the computer labs not all are thrilled by the access but it has improved greatly since the recent opening of a new computer lab. The computer themselves and the internet access is described as good.

Berkeley does come closer than Blindern to the "High on nurturing an ICT habitus development" ideal type in regard to computer labs. Having just opened a new computer lab on campus improves the number of computers in proportion to the student mass. The quality of the computers is good and the internet connection is fast and fairly reliable.
6.3.3 At home
Almost all of my Blindern subjects have a computer at home. Some of them have internet at home and a few more are going to get it soon.
All of my Berkeley students have both a computer and internet access at home.

The Berkeley students thus score higher on resources than the Blindern students, which in addition to the difference in cost of using the internet, goes a long way explaining why the Blindern students use the computer labs in a greater degree than the Berkeley students. Another important reason for this however, I believe is due to a difference in the group structure at the two universities. The master students at Blindern seemed to be a more tightly knit together group than the master students at Berkeley. Working at the master students' computer lab thus helped the Blindern students to stay in touch with friends and fellow students. At Berkeley the group was much larger and I did not get the same feeling of "togetherness" there. Since this is more an impression I got than anything else I will not spend any more time going into this.

6.3.4 Summary of Berkeley vs. Blindern
On an average the Berkeley students end up with a higher score of ICT capital than the Blindern students. Berkeley as a university comes closer to the "high on nurturing an ICT habitus development" ideal type on the most important point, which is "in teaching", and does on average come better out of it than Blindern which comes closer to the "low on nurturing an ICT habitus development" ideal type. At the stage of trial and error this might not seem so important. My subjects' progress through this stage has been fairly similar. In the next chapter however, the importance of the difference in ICT capital will become apparent as my subjects struggle onwards towards a fully developed ICT habitus.
6.5 Moving on to the next stage

The trial and error stage is where the similarity between my subjects was greatest. As this is a stage I believe one has to pass through when developing an ICT habitus, the similarity comes as no great surprise. There are however differences as well. Firstly the Berkeley subjects, on an average entered into the stage of trial and error earlier than the Blindern students. This is partly due to them encountering the technology at an earlier stage in general, but more as a result of demands from their surroundings. When entering into the student role, it was expected of them to use the technology at a much earlier point in their studies than what the Blindern students experienced. As there was no real support system to teach them how to use the technology, this prompted them to learn on their own much earlier on than the Blindern students. The Blindern students went through the same process, but not really until they started on the masters stage of their studies.

The second difference is linked with the universities themselves. The way the students' needs when dealing with the technology is met. The amount of ICT capital the universities provide its students with. Although none of the universities exactly fit the ideal types I presented in chapter four, as I have now demonstrated Berkeley is much closer to the type "high on nurturing an ICT habitus development", while Blindern is closer to the type "low on nurturing an ICT habitus development".

The third important difference between my Blindern and Berkeley students is the moving on to the next stage. After one has encountered the technology, and learned how to use it on a daily basis through trial and error, it is time to move on to the third stage of ICT habitus development. At this last stage before one reaches the point where use of the technology is a fully integrated part of one's habitus, the third and final step is obtained; advanced use of the technology. Up until now the learning process has covered the basics, the things one has to know in order to cope. Through trial an error this knowledge has been acquired and now it is time to expand the field of knowledge and use of the technology. This is the stage where one's ICT habitus is almost fully developed, but it is still incomplete and not completely integrated. This is where the difference between the Berkeley and Blindern students becomes most apparent. While the majority of my Berkeley subjects have moved on to the
"Almost there" stage defined by advanced use of the technology, most of my Blindern students are stuck in the stage of trial and error. This I will examine more closely in the next chapter.
7 Almost there

7.1 Advanced use of the technology

The third step is advanced use of the technology. This is where one starts to figure things out, learning new ways of doing things, better and simpler ways of getting things done and so forth. This is the step where motivation to learn battles the fear of the unknown. A lot of people may actually stagnate at this step as they feel they know enough. They may wish they were better at some things but at the same time they feel they know enough for their everyday use and so the motivation to proceed towards a fully developed ICT habitus is just not strong enough. This is where both the "ability to learn" (table 4.2) and the person's inner motivation (4.2.4) become important. One may possess the ability to use the technology in an advanced and efficient way and still not possess a fully developed ICT habitus; one is close, very close but just not yet there.

7.2 Reaching the end of the path

The point where one can say that the ICT habitus development is complete is when the use of the technology is an internalised process. Bourdieu points out that habitus contributes to constitute the field as a comprehensible world where there exists meaning and values worthy of investing one's energy in. Taking the technology for granted, using it without actually thinking about the fact that one is using it, that is the point where it has truly become an integrated part of one's habitus.

None of my subjects had reached this point at the time I did my interviews, but some of them were close. The Berkeley students on average being much closer than the Blindern ones. I will now proceed to examine how my subjects actually used the technology in their everyday lives, and make an estimate based on the theoretical framework as to where this places them on the path to developing an ICT habitus.

It should be noted that in this process I make relatively "grand" generalisations from a very small sample, overlooking individual differences, seeing each group of students as a whole. Again I do this to emphasise the process of developing an ICT habitus. The generalisations are intended to serve in much the same way as the ideal types, as tools to help make sense of the empirical data.
7.3 Use of the technology

As advanced use of the technology is what defines this third stage of an ICT habitus development, how the students actually use the technology in their everyday lives becomes rather interesting at this point. I will proceed to examine this use more closely in the following section of this chapter, starting out with their main use of the technology and then explore each of the areas of word processing, the internet and e-mail.

7.3.1 Main use

Blindern

For almost all of my Blindern subjects the main use of the technology is related to the writing of their thesis and e-mailing with their friends. Most of them state that they use the technology primarily for word processing and secondarily for e-mail. Almost all of them say they also use the internet but only a few of them actually use it as a tool to help them in their studies.

Anne is the one of my subjects who uses the technology the least, and primarily uses it for writing her thesis. Before starting her masters studies she avoided using the technology hand writing all papers, as there was not a requirement that they were machine written. The only reason she started using the computer was that it became a requirement as she entered into the masters program.

Beate, Cecilie, Elin, Frida and Grete use it mainly for word processing; writing their thesis, a little bit for the internet and for various degrees of e-mailing.

Dina differs from the rest in that she mostly uses the technology in a recreational setting. It is a tool she uses to keep herself updated. At the same time she says she could not manage in her studies without it, especially when it comes to writing the thesis.

Going back to ideal-types I described in chapter four (table 4.1) concerning pre ICT habitus vs. a fully developed ICT habitus, it looks like my Blindern subjects fall slightly closer to the pre ICT habitus. Their main use of the computer is as a sort of advanced typewriter, using it to write their thesis. In addition they only use the
internet in a very small degree. The only point where they fall closer to the ICT habitus ideal type is when it comes to e-mailing.

**Berkeley**

Almost all of my Berkeley subjects report that they use word processing, e-mail and the internet for research on a daily basis. In addition some of them also uses additional software or databases in their research.

Courtney, Diana, Evelyn and Fiona mainly use the technology for word processing, the internet for searches, and e-mail to stay in touch with friends and family and to communicate with professors and people relevant to the working on their masters.

Amanda, Beatrice and Gabby use e-mail a lot, both personally and in their studies. They also use word processing a lot and internet for research, and also a little just for personal interests. In addition they use software like spreadsheets (Excel), statistic programs and databases.

All in all the Berkeley students fall a bit closer to the ICT habitus ideal type than the pre ICT habitus one. Although most of them too, use it mainly for word processing, they utilise more of the different aspects of this program and thus the computer to them becomes something more than just an advanced typewriter. In addition some of them also use it for other tasks connected to their studies. Most of them also use the internet on a daily basis, and seem to know where to get the information they need, knowing where to look and how to use the search engines. They are also very fond of e-mailing and use it extensively both privately and in their studies.

As a start I have now roughly summarized the main use of my Berkeley and Blindern subjects, trying to see this in connection with the ideal-types I presented in chapter four. In order to fill in the picture, adding details and more depth to the analyses I will now examine their use more closely. I will look at the three main areas of use; The computer as a tool - represented by word processing, the internet and e-mail. I will go through each area, look at my subjects use and see how this fits in with my definition of advanced use (table 4.4).
7.3.2 The computer as a tool - Word processing

As most of my subjects mainly use the computer for word processing this is the best indication on how they use the computer as a tool. The main and important difference between my Berkeley and Blindern subject in that respect, is that the Berkeley students use more of the different aspects of the word processing software, than the Blindern students who basically just use it as an advanced typewriter with editing possibilities.

Blindern

All of my Blindern subjects express various degrees of enthusiasm for word processing as a tool. All of them think it has made the writing process easier with emphasis on the significance of the various editing functions, especially cut and paste.

Dina finds word processing very useful, but feels she does not know how to use it as well as she would like. She has not started writing her thesis yet, and thus does not use word processing on a daily basis. She has used it a lot for other written assignments though and thinks it makes the writing process a lot easier, as she says:

"It is an obvious advantage being able to save, and to move paragraphs and that kind of things. It's the kind of stuff I've learned to get use to. I can remember before we had a PC at home, then we had a typewriter, and it was okay, but you had to throw away extreme amounts of sheets, because you had written something you were not pleased with, and then you had to change sheet and start over again... so it's clearly easier being able to editing and cut and paste... I think it would be very hard to go back to how things were in 1984..."

(Dina)

Anne, Beate, Cecilie, Elin and Frida are very fond of word processing, especially about the editing possibilities. They all think word processing, in several ways has made the writing process a lot simpler. This is the reasons Cecilie gives as to why word processing surpasses pen and paper:

"For one thing my hand writing is really ugly, making it much easier to read what I have written, when using the computer. Another thing is that it's much easier formulating thoughts on the screen, and easier to reformulate them without the mess... it is still neat even after reformulating it for the fourth time..."

(Cecilie)
Grete claims she could not manage without the computer in her everyday life as a student, as she says:

"I am completely dependant on the computer, both for word processing and for searching up articles, and so forth..."

(Grete)

Like Dina she thinks it is a lot easier than using a typewriter, and like Cecilie she thinks it is neater and better arranged than handwriting. She also, likes the rest thinks the editing tools are a unique and marvellous aspect of word processing.

Going back to the definition of advanced use (table 4.4) my Blindern subject do well in the sense that most of them use word processing on a daily basis, and are happy about the way the technology simplifies the task of writing their thesis. Still, examine their use it does not quite come up to the "advanced" level. They only use word processing in its most basic form thus turning the computer into nothing more than an advanced typewriter.

**Berkeley**

When it comes to my Berkeley subject all of them are as well very fond of word processing. They find it infinitely superior in terms of writing, editing, and cut & pasting and so fort. Some of them go so far as to claim they would be unable to write without word processing. All of them feel comfortable in using it and feel this is something they know how to use.

Usually Amanda feels she knows enough, but she has been in situations where she wished she knew more about word processing. She was on a sort of editorial board for a journal. She and another had to sit down and format all the articles, and print them out sending it off to the publisher. This is how she described the experience:
"The other woman I was working with had some publishing background, and she obviously knew a lot of tricks with Microsoft Word that I didn't, and I was helping her getting some of that done, and it was very frustrating for me 'cause... all the different authors of the articles had sent them in, you know, various different people had made different formatting mistakes, so we had to do changes, you know every little tab-stop they've done in the reference list or something like that... and it would be really annoying if you couldn't find an efficient way to do it and you just had to hit the same keys over and over and over again or something like that, so there's definitely times when I feel I don't know enough about the word processor..."

(Amanda)

Beatrice, Diana, Evelyn and Fiona are very fond of word processing. They feel comfortable using it and think it changes the way one writes, just by enabling one to edit on the screen, cut and paste, not having to physically write anything. When asked about her relationship with word processing this is how Diana replied:

"Word processing... I feel fine about that... I pretty much can use all of the functions... I can do exactly what I want on word processing..."

(Diana)

Courtney and Gabby claim they are addicted to word processing. Courtney feels word processing has improved her life, as she hates to write. She uses word processing for everything she has to write from lecture notes to notes on her readings. She thinks she would be unable to write anything without a computer, as she said:

"Word processing saved my life, because I hate writing... I got a laptop... and I stopped writing basically... I was just taking one or two classes, and occasionally when it doesn't work, I just don't take notes... I'm that hooked on it... at home too, you know if I read a... if I want to take notes I'll do it straight... I can't think with... paper and, you know, pen any more... I think at the computer... so word processing, has done wonders..."

(Courtney)

Gabby says that the way she writes, the way she was taught to write, would not have been possible without the computer, so word processing is her favourite thing about the computer and she feels completely comfortable with it. When asked if she could imagine how it would be without word processing this is what she answered:
"I just can't imagine, that's just like a nightmare... because the way I write is like totally computer based... because I write an outline... and this is the way I was taught to write, which was with computers in a special writing class... write an outline, then go through and use the outline... but it's more free association based on the outline... and that's all typing... you have to be able to type for that, right?... you can't just sit there and write free association, because... it would take like a thousand years... and then, you go back and paste and fix about three times until you get to a product that is somewhat decent, right?... so it's totally like something that would not even have been possible before the computer..."

(Gabby)

Most of my Berkeley subjects do fit within my definition of advanced use. They also use the technology on a daily basis and in addition they use it skilfully (see table 4.4). They feel comfortable using word processing and are exited about how much easier writing has become using word processing.

7.3.3 Internet

My subjects' use of the internet includes recreational use as well as use in connection to their studies. The recreational use spans from finding information about areas of interest to them, like bands, being updated on concerts and record releases, and so forth, to reading the newspapers. When it comes to the use connected to their studies there are three levels of use. The ones that basically only uses the online library service to find books and articles, the ones that in addition to this also knows some other sites where they can find information and finally, the ones that on top of this know how to use the search engines in a productive way, being able to find what they are looking for within a reasonable amount of time. It is only the ones in the last group that can be said to have reached a level of advanced use, using the internet for various tasks connected to their studies. I will now first look at how the Blindern students do in the light of this definition, and then I will examine the Berkeley students within the same parameters.
**Blindern**

All my Blindern subjects came into contact with the internet for the first time as students. For most of them this happened after they had started their masters degree. They use it primarily to do searches connected to their thesis, and for recreational purposes. Almost all of them claim they do not control the search engines as well as they would like.

Anne and Frida fall into the first category, basically just using the internet for library searches. As Anne puts it:

"I really haven't searched that much for information on the internet... as I mentioned, I tried a bit in the beginning, but I thought it hard to access the information, so... What I use the internet for mostly is BIBSYS\(^{12}\), and that's sort of like going to the library... and I've used it to read newspapers... I haven't used it for... like abstract information searches, or something... more like concrete stuff, like registration of books and such..."

(Anne)

They have both tried to do searches on the internet, they just do not feel they master the process, as Ann expresses it:

"What frustrates me the most is that I can't seem to get the hang of those search engine things... I have thought many times that. "Well, I could just visit the home page of this and that" ...but when I don't have the web address, I sort of don't understand how I'm supposed to get there..."

(Anne)

Beate, Dina, Elin and Grete fall into the second category. In addition to using the online library database they also know sites where they can find information relevant to their studies. As Elin says:

"I have regular sites I visit, maybe every day... newspapers, and other kind of sites... they are my regular bookmarks... I don't do a lot of random searches... I've never been big on surfing..."

(Elin)

Dina does not use the internet much as a student, but recreationally she uses it a lot. This is how she describes it:

\(^{12}\)The online library database
"I don't feel I've used the internet much as a student... a little for practical purposes, checking changes in my schedule and stuff like that, practical information so to say... in relation to sociology as a subject I haven't done much... the internet is more of a tool I use outside my studies, to keep myself updated on what's happening..."  
(Dina)

They main reason they give for not using the internet more, is that they do not know how to use the search engines properly. They feel unable to navigate, drowning in irrelevant information, being bombarded with commercials, spending far too much time without finding what they need. This is how Elin expresses it:

"I think one of the main reasons I spend so little time randomly on the internet, is that I think it's just too much "noise" there... this exerts so much time and effort, that I feel I can just not afford to do it... even thought it may cause me to filter away valuable information along with the noise..."  
(Elin)

Cecilie is the only one of my Blindern subjects who comes close to the third category. This is how she describes her use of the internet:

"I use the internet quite a lot... to check the workout schedule at the gym, to apply for jobs, to check the program at the opera, sports and the theatre... news papers, TV-guides... I've also found articles on the interned, searching within the databases of other universities... I have some regular sites I visit, and I also do some searches"
(Cecilie)

In addition to using the online library database and having regular sites she visits, she also does more random searches to find information for her thesis. Although she is very close to the level of advanced use, she does fall a little short, not being entirely happy with the time spent doing these kind of searches:

"Generally it's okay doing searches on the net... I've found a lot... well, not really a lot, but I've been lucky... It's hard to know what I don't find... I do of course easily spend a lot of time searching... I do... but I think it's within acceptable limits... although it does take a lot of time..."
(Cecilie)

Seen as a group, my Blindern subjects do not aspire to the level of advanced use of the internet. In levels of comfort using it, they score very low, but most of them have at least attained a certain level of use. They still have a long way to go before developing an ICT habitus.
**Berkeley**

On an average, my Berkeley subjects encountered the internet earlier than my Blindern subjects. Many of them played around with it in the beginning, chatting a bit, and reading people's postings on different subjects and so on. Most of them find the internet very useful and more than half of them feel they gain very much by using it for information gathering. They also know where to find what they are looking for. Almost all of them have misgivings as to relevance of information, garbage on the net and so forth, but most of them also take this for granted and know how to avoid these problems.

In the category of those who basically only use the internet for online library searches one finds Courtney. She barely uses the internet for anything other than e-mail. If she needs to do research for papers, she uses it to find literature, etc. She finds the internet a bit scary, and feels uncomfortable using it, as she says:

"I mean I don't trust the search engine… and I don't trust myself to type in the right keyword… if I'll locate some books that I want, or something, I would first use the search engines and then… but… it's not my favourite…"

(Courtney)

The second category contains Evelyn and Fiona. In addition to using the online library, they also have places on the internet where they know they can find useful information. Fiona uses the internet mainly for job related issues, as she says:

"When I do use the internet, it's probably more for professional sort of sources rather than for… my academic research as such… I guess I see the internet more as… not a main method of doing research, but supplemental… depending on what one is looking for… but I've found it useful for professional purposes…"

(Fiona)

Evelyn does not think the internet is as useful as word processing in terms of writing papers and such. This is how she expresses her feelings on using the internet:
"The internet is so hard to use, in terms of finding... it's just so huge, and... you have to be quite skilled, I think, to search efficiently on the internet... but... I've gotten increasingly used to finding articles on the internet... and just printing them out, and not having to go to the library..."  
(Evelyn)

Still, even thought she finds the internet hard to use in her studies, she quite likes having all that information available when it comes to other aspects of her life. As she describes it:

"Just in general, if there is something... I'll think of something... and it used to be that you'd have to go to an encyclopaedia if you wanted information on some random topic... and now you can go to the internet and... you know... I injured my knee, and I could go get all this information about knees... or if I'm curious about how to cook a particular type of fish... I can just... I can find all that on the internet... which is just... it's more a lifestyle thing... and that's really neat, but... I find the internet more useful for that often, than... academic research..."
(Evelyn)

Amanda, Beatrice, Diana and Gabby make up the third category. In addition to the use of those in the two preceding categories, they also know how to use search engines in a productive way, being able to find what they are looking for within a reasonable amount of time. One of the aspects of the internet they really like is that it saves them a lot of time, as Amanda says:

"The paper I wrote for the class a couple of weeks ago... you know I found lots of labour market data and economic fact and figures kind of things, and a lot of useful websites... like the OECD or the World Trade Organisation, or The World Bank... So that's quite useful, I mean it can save time, from going to the library and having to find the paper documents..."
(Amanda)

Despite this they do in fact complain a bit on the time spent. There is a difference however. The problem is not that they can't find what they are searching for, it is the websites themselves. They are exasperated with web pages that are too fancy with lots of banners and pictures and thus take longer to download. As Amanda expresses it:
"I feel like I should be doing something more valuable with that time because if you multiply those 2 or 3 seconds times, you know of a hundred different sites you look at in one little bit that's, you know a few minutes you could spend doing something else... So I do sometimes wonder if there is a more efficient way..."

(Amanda)

They are also concerned with the amount of information available, stressing the need to be critical of the sources, knowing how to navigate in an efficient way. They find it a paradox that what is a good thing about the internet, the large amount of available information, can also be the problem of the internet. This is how Beatrice puts it:

"I think it really just changes the way you do things... because you have to figure out how to deal with so much more information, and more possibilities, and you always have more things that you could be following up on... than what you can actually follow up on... you know, whenever I try to learn more about a new subject area or anything... I can certainly do it much faster and in much more depth than I could without the internet... so you know... I don't know, I kind of have a little bit of, sort of pre-internet nostalgia... it's sort of appealing to have the idea of not being bombarded with all this information all the time, and... all that... but I think probably, overall it's been useful..."

(Beatrice)

They also have concerns that my Blindern subjects never mentioned, which give an indication of my Berkeley students' more widespread use. This is one of these concerns expressed by Gabby:

"In general I feel a lot more in control of the internet than I do of my computer, except when I end up accidentally on porno sites... that's always frustrating, I'm like "What?!!?"... 'cause you type in stuff you just don't think is gonna get you there, like one word, and you end up on one, and be like "This is not where I wanted to be..." and I'm always afraid someone is gonna look at the history, like they'll find something on the internet and they'll see that I like hit that, and I'll be like "Oh God..."."

(Gabby)

All in all my Berkeley subjects on average have higher comfort level when using the internet, than my Blindern subjects. More of them also fall within the "advanced use" category. In addition they have a more reflected view on the internet. They are happy about the fact that it makes their lives easier, but do not use it without caution. They are aware that there is a lot of low quality information out there and make sure the sources they use are valid.
7.3.4 e-mail
This aspect of the technology, is the one my subjects in general are most fond of, and feel quite comfortable using. I believe this is due to the fact that the use in many ways is rewarding in itself. Almost all of my subjects use e-mail to communicate with friends, and they emphasise this as something positive. They express fondness for e-mail as something that makes their everyday lives a bit more enjoyable. They also mention several other areas where e-mail plays an important role. The only negative aspect they mention in regard to e-mail, is the time spent on it. Summarised the list of topics touched upon at both universities, looks like this:

- Relationship
- Friends
- Studies
- Contact
- Professors
- Time

I will now examine each of these points, first at Blindern and then at Berkeley in order to see where this places each group of students along the path to developing an ICT habitus. Comparing the two groups along these lines will also give an idea of similarities and differences between them.

**Blindern**
In general, all of my Blindern subjects are very enthusiastic about e-mail as a communication tool. Almost all of them use it mainly to communicate with friends even though most of them, in addition at some point or another, have used it in connection with their studies, at least for communicating with their coordinators. Almost all of them express concern that they easily spend far too much time e-mailing their friends instead of working on their studies. All of them feel comfortable using this aspect of the technology and feel they master it in a good way.

**Relationship**
Almost all of my Blindern subjects have strong feelings in regard to e-mail, giving the impression it plays an important role in their everyday lives. This is how Elin describes her relationship with e-mail:
"I use e-mail for everything... I'm a mail-junkie... I got informants for my thesis through e-mail, I contact my work through e-mail... I keep in touch with friends here and abroad through e-mail... I keep in touch with my parents trough e-mail... I communicate with my coordinator through e-mail... so I really use e-mail for almost everything... you can say it's the communication tool or the computer tool I use the most and feel most comfortable using... sending attachment and stuff... it's what I think has made the greatest difference, and has made my life much easier..."

(Elin)

All of my Berkeley subjects use mail, although some use it more than others, and some less. None of them have any trouble sending and receiving e-mail, and most of them seem to be fairly certain that their e-mails reach their intended targets.

Although they feel in control of e-mailing, their use is chiefly limited to reading and writing mails. Most of them also know how to send attachments, but of the e-mail program itself, many of them know little of the options it offers, as Frida puts it:

"I think e-mail is very easy, but I haven't looked at all these... what is it called... headlines? ...so I don't really know all the uses for it..."

(Frida)

Although they have a fairly good relationship with this aspect of the technology that does not necessarily mean that they master all the functions of the software, and thus does not take advantage of the full potential of the technology.

Friends

As mentioned friends are the main recipients of my subjects' e-mails. Many of my subjects say that one of the things they like best about e-mail is that it enables them to stay in touch with friends they otherwise would have lost contact with. A Beate puts it:

"I really like that the threshold for mailing someone is so low... especially with friends that is not part of the "inner circle", it's okay just to mail them 4-5 lines... you wouldn't have written them a letter, and you wouldn't have called to tell them the same, but with e-mail one have the connection... I see that as a great advantage... I'm really grateful it enables me to stay in touch with friends I otherwise wouldn't be in contact with..."

(Beate)

When it comes to the communication itself, it varies. A few of my subjects write long, letter-like e-mails, but only in special circumstances, as Anne says:
"When I e-mail with my friend abroad, and my sister who lives in another town I write long mails, about everyday occurrences, but when I e-mail friends or fellow students, it's more like back and forth, more practical, like "Shall we do this, then?"... and so one, and so forth, like short messages, to plan... to make appointments..."

(Anne)

The most common form of communication is the back and forth e-mailing of short, to the point messages. I think that since I did my interviews SMS has in many ways taken over this form for communication in Norway. In the USA however, the number of cell phones in the population, has not had nearly the same growth as in Norway. It would therefore be interesting, to see how the development of communication through e-mail in Norway has been, compared to the USA from then until now.

Studies
Almost none of my Blindern subjects have used e-mail in classes, or in teaching in general. The only one of my Blindern subjects who has come close to using e-mail in this setting is Dina:

"What I have used for is... if I haven't been in Oslo, but I'm working on an assignment... to keep in touch with... in relation to the rest of the group... ending notes and stuff back and forth..."

(Dina)

She has used e-mail to keep in touch with her study group, when she has been away from the university. This she has done on her own initiative as there has been no framework for using either e-mail nor internet in a class setting. This is the greatest difference between my two groups of students, and is primarily due to the difference in ICT capital provided at the two universities. In the next chapter I will examine the impact of this kind of ICT capital more closely, as I believe this is a very important factor in reaching the end of the path.
Contact

When it comes to contacting people, other than friends or professors, my Blindern subjects are divided. A few of them, like Cecilie and Grete prefer to contact people over the phone, or in person, and the only reason they may use e-mail, is for practical reasons. Like Grete says:

"I really prefer to call... because if they have any questions they can ask them right away... the reason I use e-mail is that if they work at research institutions, they are impossible to get a hold of, and then e-mail is the simple solution..."  
(Grete)

Others, like Anne, Dina and Frida see it as an advantage to contact people through e-mail, as it lowers the threshold for communication, making it less scary. As Dina puts it:

"I think if you want to get in touch with someone famous... or people you haven't talked to in a while, or someone you don't know... then I feel it is safer to contact them through e-mail..."  
(Dina)

And some of my subjects, like Beate and Elin prefer contact through e-mail, compared to using the phone or meeting in person. As Beate says:

"What I like about e-mail is that its asynchronous, people don't need to be at home for me to tell them what I'm telling them, or in front of the computer, or the phone, or whatever... and in that way they can reply differently than if there were, for example somebody else present, and I find that a great advantage... and then there is the low threshold for taking contact... I find that a great advantage..."  
(Beate)

Still, all of them made first contact with me through e-mail, and I am guessing that was because the threshold for contacting someone through e-mail is generally lower. Despite this my Blindern subjects fall a little short of the advanced use category, also when it comes to this aspect of e-mail use. They are very close, as some of them actually fulfil the criteria at this point, but that does not hold for the group as a whole.
Professors
Almost all of my subjects think e-mail is great for contacting professors and coordinators. As Anne says:

"I think it is easier to contact professors through e-mail because... it gives you the chance to think through your questions, and it's less... I feel it is less formal, and it doesn't bother the professor in the same way, as they can choose whether to read it or not... choose whether to reply or not... so the technology makes it sort of easier to take contact..."
(Anne)

They like that it makes the professors more accessible, as the threshold for contact is lowered. They also like the fact that it gives them more control over the communication. They can be very precise about what they want to know, and there is little room for misunderstandings. As Anne puts it:

"When I contact my coordinator I feel that with e-mail... it's easier thinking through "What shall I ask about now?" and then I ask about that... on the phone I feel that there is often misunderstandings, and that she is in control of the conversation... on e-mail I feel... I can ask more concrete questions... and get more concrete answers..."
(Anne)

Although almost all of my subjects think communicating with professors and coordinators through e-mail, is a good thing, there are problems. In Cecilie's words:

"My coordinator doesn't want me to send attachments... I think she's afraid she couldn't... would have trouble opening it and such... apart from that, communicating through e-mail has been good..."
(Cecilie)

As the technology was fairly new to the teaching staff, as well as the students when I conducted my interviews, they had not either had the chance to fully develop an ICT habitus. As a result some of them might have an even lower comfort level than their students when using the technology.
Time

Almost all of my subjects are concerned about the time spent e-mailing friends. Some of them try to limit the use, as Cecilie says:

"It's an okay way to communicate with friends... and other people... it takes a lot of time, so I try to limit the use... because I don't want to spend too much time on it... but it's an okay way to communicate in..."
(Cecilie)

Some are aware that they spend too much time e-mailing, but seem unable to do anything about it, as Anne puts it:

"At times I become a bit frustrated with myself... how much time I spend sending and reading e-mails... it's easy to spend too much time on it..."
(Anne)

Others again reach the point where the time spent e-mailing actually does damage to their studies, and they have to limit the use in order to pass their exams. As Dina says:

"I check my e-mail several times a day... two semesters ago I checked my e-mail too much, and then my studies suffered badly... I spent too much time on it... mailing with a friend in Australia... far too much... I've tried limiting it now, but I still check the mail as I arrive at Blindern, once during the day, and before I leave..."
(Dina)

Although my Blindern subjects use e-mail a lot, their use does not reach the level where it can be called advanced. They use e-mail primarily for recreational purposes and not in relation to their studies. They know the basic of the software but do not take advantage of its full potential. Their comfort level when using it however is high and they also enjoy doing so. This is the application where they as a group are closest to a fully developed ICT habitus. I think their enjoyment using e-mail is an important reason to why they are so far along the path when it comes to e-mailing. This is again connected to what I have previously referred to as the inner motivation to learn more. When it comes to e-mailing most of my Blindern subjects have plenty of motivation, what they lack is ICT capital in the form of support from the surroundings. Examining my Berkeley subjects, I will highlight some of the differences in this respect, and in the following chapter I will discuss this in more depth as I look at the causes behind the various developments.
Berkeley

All of my Berkeley subjects find e-mail very useful. They all prefer e-mail when it comes to communicate with professors. Most of them use it as a tool in their studies as well as to communicate with friends. All of them started using it at the same time as they started using the internet. They all find it reliable and almost all of them are very fond of it. I will now examine their answers along the same lines as I did my Blindern subjects, in order to bring out similarities and differences between the two groups.

Relationship

Almost all of my subjects are very fond of e-mail, the only exemption being Fiona who claims she generally see the technology as a means to an end and therefore does not have any feelings towards it. The rest of my subjects express positive feelings towards this aspect of the technology, as Beatrice puts it:

"I think e-mail is probably my favourite part... of internet, just because... it's fairly reliable, it's... pretty straight forward, and... I use it so much to communicate with people..."

(Beatrice)

The reasons for the positive feelings are more or less the same as among my Blindern students, the straight forwardness of the software making it easy to use, and the ability to communicate with people in a simple, informal way. They also, like the Blindern students enjoy using it to communicate with friends, although most of them seem to have reached a point where they primarily use it as an aid in their studies and secondarily for recreation purposes. As Courtney says:

"I use it, you know... for setting up interview with people... you know, I just find it more convenient... or, you know to talk to professors... and in the beginning I would use it for friends who were in Israel, or other parts of the United States... in stead of giving someone a call, I would send an e-mail... I'll e-mail with my boyfriend while he's at work..."

(Courtney)

Most of my Berkeley subjects say they used e-mail more for friends in the beginning, but now they use it most in relation to their studies. They still enjoy using it for friends thought, but their studies take precedence.
**Friends**

When it comes to friends my Berkeley subjects, like my Blindern ones likes the fact that e-mail enables them to stay in touch with friends they would otherwise have lost contact with. They also like that it allows them to communicate with so many persons at the same time, as Beatrice puts it:

"I like that it enables you to be in contact with so many more people... that it sort of offers you this chance to interact with people whom... you wouldn't interact personally... either because... you know, you wouldn't have time, or... they're too far away, or... what have you... yeah, I guess, I guess... connections to people, and information... "

(Beatrice)

Also my Berkeley subjects like that the technology enables them to stay in touch with friends they otherwise would not have had the time to keep in contact with. 13

A difference between the two groups is that the Berkeley students generally seem to have more friends in other parts of the country, than the Blindern students. This might be because people in the US generally move more often and due to the difference in size of the two countries, farther away Thus e-mail becomes even more important in staying in touch with close friends, as it is a simple and cheap way of communication. This is what Gabby says:

"My friends... showed me how to use e-mail, and I thought it was the coolest thing, 'cause I had friends all over the country... and... and so my friends and I all began e-mailing back and forth..."

(Gabby)

All in all the main difference between my Berkeley and Blindern subjects is that the Berkeley students seem to have moved beyond the first stage where e-mailing with friends was the primary use, and reached a level where they use it in a more productive way in relation to their studies.

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13 I found this very interesting at the time I did my interviews, as this hinted towards a change in communication patterns. Some time has elapsed since then and at this point in time SMS has taken over much of the communication between friends in Norway, opening up new arenas for further studies, something I will return to in chapter nine.
Studies
This is where I found the greatest difference between my Berkeley and Blindern subjects. This I believe, was in fact mainly due to the framework provided by the university itself. At Berkeley e-mail was, as previously mentioned (6.3.2) an integrated part of teaching. Amanda describes the situation like this:

"More and more professors seemed to be using it… to communicate with the class, you know, send out messages to the whole class… or forward interesting information… for extra discussion… and then, I guess… both seminars I had this semester and one graduate seminar I took my last semester as an undergraduate… there was some requirements where… we had to… write a short reaction to the weeks readings… or one seminar I had this semester that several times throughout the course you need to propose two questions to the class for the discussion, and do that ahead of time, by sending them out by e-mail, to everybody else in class… "

(Amanda)

The students are thus forced to use e-mail. They are in fact required to use it in the class setting. In the next chapter I will examine the effect I believe this might have on the students' relationship with the technology.

Contact
All of my Berkeley subjects prefer e-mail when it comes to contacting people professionally and in relation to their studies. Diana puts it like this:

"I definitely prefer communicating… anything to do with work, and school by e-mail, because… it's there, and I like being able to answer those kind of questions at my leisure too… you know, if I hear about a meeting… I don't want someone calling me on the phone, and telling me about a meeting, and then waiting for me to tell them whether I'm gonna come or not… I like to, like look at my calendar, and figure out what, you know… it's sort of a way of putting off… some response as well… "

(Diana)

They prefer contacting and being contacted through e-mail. When being contacted it gives them the opportunity to think through their response and see whether things fit into their schedule. When contacting people it gives them the time to think through their questions, and maybe avoid a potentially embarrassing situation, as Evelyn puts it:
"I was talking to somebody about how great e-mail is when you have to interact with... somebody in a sort of formal way... and it's a way of avoiding making an embarrassing phone call, where you have to explain who you are, and... the person maybe is impatient on the telephone, if they're busy, and maybe... you feel like you sound stupid on the phone... you can compose a very polite, concise e-mail message, and send that to them... and then when you call, they know who you are... and they can deal with your e-mail... when they have time to, as opposed to a telephone call... it's wonderful...."

(Evelyn)

My Berkeley subjects are thus more positive to contacting people through e-mail than my Blindern subjects, and this easily explains why they all made first contact with me through e-mail. Consequently hen it comes to using e-mail in this respect they fall well within the advanced us category and do indeed seem to have reached a fully developed ICT habitus, on this point.

Professors
There is no doubt that my Berkeley subjects prefer to contact professors and coordinators through e-mail. According to them it is actually the only way to get in touch with professors at all. This is what Diana told me:

"I remember when I came here... someone said... "Oh, you have to get e-mail, cause you'll never ever talk to any professor if you don't..." so... I think it's sort of common knowledge that that's the preferred method of... communicating..."

(Diana)

Apart from actually having to use e-mail in order to reach the professors, the Berkeley students give similar reasons as the Blindern students for preferring to use e-mail. As Beatrice expresses it:

"I certainly find it less intimidating to... carry on conversations with my professors... by e-mail... because, it's just you know, it's sort of a less formal medium, and... I feel like I can ask... you know, dumb questions, and things like that, and... whereas I would feel really uncomfortable, going to their office hours, and not really knowing what I was gonna say..."

(Beatrice)

Contacting the professors through e-mail is less intimidating and also takes less time. It gives the professors the opportunity to answer when they have the time, and thus providing better answers than if they were rushed. They also feel it is easier to ask dumb questions this way. All in all it is my impression that the professors at Berkeley
on an average are more comfortable with the technology than many of their Blindern counterparts. This might again be related to the way the technology has been introduced in teaching.

**Time**
Most of my Berkeley subjects seem to be able not spending too much time e-mailing friends. It does not seem to be an issue with them, as they seem to be able to limit the time spent without too much trouble. As Evelyn puts it:

"I don't contact or keep in touch with as many people as I could… through e-mail… I think… I find it a little tiresome… to have to do all these personal e-mail messages, like… it can eat up so much time… but… on the other hand I do like that… I like being able to get in touch with people…"

(Evelyn)

Some of them even seem to feel that e-mailing with friends take less time than calling, as they can keep to the point and not spend an eternity chitchatting. It would be interesting to see how this pre SMS communication pattern looks like today. Especially compared to Norway as mobile phones have not had anywhere near the same dispersion in the US as in Norway.

All of my Berkeley subjects seem to fall well within the category of advanced use when it comes to e-mail, being very close to a fully developed ICT habitus in this area indeed.
7.4 Assessments of advanced use

According to my definition of "advanced use" the Blindern students do not reach this level in using word processing, as a group. When it comes to using the internet they do even worse, being stuck in the early stage of trial and error. E-mail is the aspect of the technology where they as a group come closest to attaining a level of use that can be called advanced.

The Berkeley students on average do better than the Blindern students, as a group. Most of them fall within the definition of advanced use when it comes to word processing. When it comes to using the internet however they do not do so well, being at the upper end of the stage of trial and error. E-mailing is the aspect where they do best. As a group they are very close to attaining a fully developed ICT habitus falling well within the level of advanced use as well as having nearly internalised the use of this aspect of the technology.

Risking over generalising my findings, the two groups of students' progress towards a fully developed ICT habitus can be summarised in figure 7.1:

**Figure 7.1: The subjects' progress towards a fully developed ICT habitus**

(Source: Author's research with input from Terje Grønning)
The Berkeley students are as one can see further along the path towards a fully developed ICT habitus than the Blindern ones, in all the aspects of use. Exploring the reasons for this I believe that in addition to the types of ICT capital provided by the universities I have already described in this chapter, there are two additional types of ICT capital that plays an important role in this equation. I also believe these are the most important types of ICT capital when it comes to closing the gap between 'almost there' and a 'fully developed ICT habitus'. One of these types is ICT capital in the form of coercion provided by the subjects' surroundings, the other is motivation. In the next chapter I will explore this further as I discuss the causes behind the various developments I have presented this far.
8 Causes behind various developments

In this chapter I will discuss some of the causes behind the various developments I have presented in the preceding chapters. I will start by examining an alternative model of the ICT learning process and see how it fits in with my own three step model. Then I will proceed to examine factors I believe play important roles in the development of an ICT habitus. As already mentioned I believe motivation and coercion are very important in this process. When exploring the effects of motivation and coercion however, I found that I also had to include my subjects' relationship with the technology in this discussion. The reason for this being that in my opinion their relationship is linked to their motivation. To illustrate this point I have included some additional empirical material in this chapter as I believe this further illuminates the issue and therefore should be taken into account. Towards the end of this chapter I will present a model summarising what different factors I believe influence the development of an ICT habitus.

8.1. Alternative steps:

In the method chapter while presenting my Ideal types I pointed out how none of my subjects actually fitted any of the two ideal types, which usually is the case when utilising ideal types. There was however a slight difference between the Berkeley and the Blindern students. The Berkeley students were as I have demonstrated through the preceding chapters, all in all closer to the ICT habitus ideal type. Bottom line however; none of the them were quite there yet The Blindern students on the other hand, fell slightly closer to the pre ICT ideal type. What they all had in common on however, was that they had started out with no ICT habitus and were now on their way to developing one.

Based on my findings I constructed a three-step model in the development of an ICT habitus:

The three steps towards developing an ICT habitus:

1. Learning how to push the buttons
2. Learning how to do something useful with the technology
3. Advanced use of the technology
Allwood (as cited by Appelberg & Eriksson, 2001:60-61) deals with how teachers learn to use the computer in order to pass on this knowledge to the pupils. The first step in this model is "The educational phase" and is described as a phase where the teacher receives education for example in the form of intensive courses. The second step is "The user phase". This describes the daily work routine where the teacher is on her own, maybe in possession of a user manual she does not even understand and with no one to ask for advice. According to Allwood who's model this is, the beginners are often reluctant to read user manuals. Allwood believes this is due to insufficient practise and trouble understanding the text. The third step "The completion phase" is maybe the phase that corresponds best with my steps, as this is the phase where the user tends to stagnate in the learning process. Allwood believes that in order to proceed, further education is needed. He also adds that it is often hard to motivate the user to further education.

Based on my findings, I believe motivation is a very important factor in making the transition from the last stage to a fully developed ICT habitus. The motivation however needs to be very strong indeed to accomplish this on its own. Allwood sees further education as the means to reach "completion" (Allwood as cited by Appelberg & Eriksson, 2001:60-61). I however do not believe this in it self is sufficient either. In addition I think there are other factors that come into play at this stage too. I will therefore proceed to examine the influence of motivation and coercion on the development of ITC habitus, seen in the light of my subjects' relationship with the technology.

8.2 Motivation vs. coercion

In the previous chapter I examined my subjects' use of the technology, mapping their progress in developing an ICT habitus. In the next section I will look at their relationship with the technology, as I believe this is an important factor in the process of developing an ICT habitus. When I talk about my subjects' relationship with the technology, I refer to the way they emotionally interact with ICT. The way they feel when they use the technology, feelings of control and empowerment, but also feelings of frustration and inadequacy. I believe these feelings are important, because they influence and are influenced by my subjects' development of an ICT habitus. A
positive relationship entails a low threshold for using the technology. This promotes the development of ICT habitus, which leads to a high level of comfort when using the technology, which again leads to a good relationship with ICT. This can be illustrated in figure 8.1:

**FIGURE 8.1: A POSITIVE RELATIONSHIP'S INFLUENCE ON ICT HABITUS DEVELOPMENT**

On the other hand, a negative relationship with ICT will make the person avoid using the technology when possible. This will halt the development of an ICT habitus, which will cause the person to feel uncomfortable using the technology, which again will lead to a poor relationship with ICT. This can be illustrated in figure 8.2:
So how does one go about turning a negative trend? I believe there are two factors that can play a particularly important role in this setting, motivation and coercion in form of pressure from the surroundings.

8.2.1 Motivation

If the person in question possesses an inner drive, a strong motivation to learn, explore and gain mastery of the technology I believe this will affect the relationship with ICT in a positive direction.

Not everyone possesses such a strong inner drive, and this is not something that is easy to measure. A person's motivation is in many ways part of her personality. In chapter four I listed motivation as a resource, part of what made up the category of ICT capital (4.2.4) available to my subjects.

In the book "Children Conquer the Computer" a model of how innovators gain ground within social systems, is presented (Rogers as presented by Appelberg & Erikson, 2001:57). I believe this model in a way can also be used to describe the different
levels of motivation in a population. I think that on the ICT arena an eagerness to embrace new ideas, in many ways correlates with a motivation to learn. I will now present Rogers' model and then try to illustrate how this may also give an indication as to the strength of a person's motivation.

**Figure 8.3: Rogers' Model of How Innovators Gain Ground Within a Social System**

Innovators
The small group of innovators are eager to try out new ideas and have an overall strong interest in technology. Their primary purpose in a social system is to create new ideas. A high level of motivation would be able to sustain this kind of eagerness and burning interest. To fit into this category I believe one needs to possess a very strong inner drive.

Early Adopters
The second group, the early adopters, are larger than the first group. They may act as a sort of role model to their peers, as they are not perceived to be that different from the average person when it comes to seeking out new things or changes. This group I believe does also possess a strong motivation to learn new things. Not as strong as the preceding group, but stronger than the average.
**Early Majority**
Between this group and the next, there is a rather large gap that needs to be transcended if the innovation is to be considered a success. The reason for this is that the next group, the early majority constitute a third of the possible users. They want a form of guarantee before agreeing to start using the new technology. It therefore takes them longer to make innovation decisions than the early adopters. This I believe is a result of a lower motivation. They are still motivated, they just do not posses enough motivation to go out of their way learning something new.

**Late Majority**
The fourth group, the late majority is as large as the preceding group, but have a more sceptical attitude to the new technology. They do not start using it until everyone else has. Almost all uncertainties must have been cleared away before they feel secure enough to acquire the new ideas connected to the technology. I believe this group is lacking in motivation. They need to be pushed in order to learn. If they can reasonable avoid it they will. Still, they possess a lot more motivation than the last group.

**Laggards**
The last group, the laggards as Rogers call them, are suspicious towards innovation and changes. They are extremely careful and reluctant to learn anything new. When a laggard finally accepts the new idea, this idea has usually already been replaced by an even newer innovation that has already been tried out by the innovators. I believe this last group is seriously lacking in motivation. They just do not want to learn anything new, being perfectly happy doing things the way they have always done it.

**Summary**
With such variations in motivation possessed by the individual, only a very few possessing strong enough motivation to turn a negative trend, one cannot rely on motivation alone. This brings me to the second factor that can be used to turn a negative trend: coercion.
8.2.2 Coercion

The second factor, coercion in the form of pressure from the surroundings, refers to the requirements made of the students by the university. This may include everything from demands that papers and theses be written using word processing, to requiring that one has an e-mail address or that one is able to download information from the internet. Requirements that forces the students to use the technology in their studies. Although this may be very uncomfortable for the students at first, especially if they have a poorly developed ICT habitus, I believe that it in time will have a positive influence on the relationship. The students are forced to use the technology whether they want to or not, and by using it regularly their skill will improve. As their skills improve their ICT habitus will develop and they will feel more comfortable using the technology. This again will have a positive influence on their relationship with ICT and from there the negative trend is turned around.

**Figure 8.4: Coercion's Influence on Relationship**

I will now proceed to examine what kind of relationship my subjects actually had with the technology, at the time when I did my interviews. I will then examine what kind of coercion the surroundings exerts on each of the groups, and try to see how this might have affected the previously mentioned relationship.
8.2.3 Relationship
Having established that I believe the relationship one has with the technology influence and is influenced by the ICT habitus one possesses, it becomes important to examine my subjects relationship with ICT, in order to map their progress towards an ICT habitus. Going through my interviews I found that my subjects split in to four types of relationship with the technology. These four types of relationships can be summarised as follows:

- "Not really interested"
- "Ambivalent"
- "Tool oriented"
- "Happy"

I will now examine my subjects' relationship with ICT, describing the four types of relationship I discovered. I will also in this context look at feelings of empowerment and feelings of frustration. As mentioned I will use the empirical material to better describe this phenomena.

Most of my Blindern subjects are very excited about the computer as a tool, especially word processing. All of my Blindern subjects feel good about using word processing, as long as it works as it is supposed to. They feel they have control over the aspects they need to know in order to manage their studies. It is especially the editing functions that give them a feeling of empowerment and control. In addition they are also very excited about e-mail as a communication tool, and use it a lot, mainly to communicate with friends.

Almost all of my Blindern subjects report various degree of frustration and lack of empowerment when the technology behaves differently than expected. Many of my subjects have trouble coping when errors occur. None of my subjects feel very comfortable using the internet. They see the value of it, but do not know how to use it in an advantageous way. They tell of trouble managing the search engines, problems navigating the internet and the fact that they spend far too much time compared to what they gain.

Most of my Berkeley subjects are comfortable with the technology. They view it as a tool that makes a lot of their work as students easier and appreciate that aspect of it.
All of them find the technology useful. Most of them feel that it gives them more control over their own lives as they are able to work from home, it enables them to be in contact with a lot of people in an easy and accessible way and it saves time and effort.

What makes them all frustrated is when the technology does not work as it is supposed to. Some of them also feel very frustrated when they are unable to find what they are searching for on the internet. I will now proceed to explore how my Berkeley subjects fit in with the different types of relationship I presented in the preceding sections of this chapter.

"Not really interested"
The "not really interested" type of relationship is defined by the person having no actual interest in learning how to use the technology. If forced to learn she will do so, but she will only learn what she has to, in order to get by. She has no motivation to learn, and in many ways come close to Rogers' "Laggards". Anne's relationship with the technology is of the "not really interested" type. As she told me:

"For very many years I was like: "Those things are not going to last..." or "It's no point bothering learning that..." so, as long as possible I tried to... it was really not a problem avoiding it either... I didn't have to use it high school, and not at all in elementary school I thought writing things by hand was okay... and the first years at the university it was no problem delivering hand written papers..."
(Anne)

Anne thus avoided the technology as long as possible. She only started using it when she had to because the university made it a requirement that papers should be machine written. Having had to learn how to use it she is very happy about how much easier it makes the writing process. Still she does not want to learn more than absolutely necessary, as she says:

"It's mostly because of the thesis that I had to figure it out... writing a large document... you have to be able to edit, delete, cut and paste, that kind of things... but I'm still like... I don't bother to really get into it... I'm not that interested, the only reason I use it is that it's okay being able to do the things I have to do, it's not like I'm interested in figuring out new, revolutionary things that I have no use for..."
(Anne)
This kind of relationship does not leave her with a high degree of comfort using the technology. When I asked her if she felt she was in control when using the technology, she answered as follows:

"To a certain degree, but then suddenly something happens and then I feel I have no control after all"

(Anne)

As long as nothing goes wrong, she enjoys using the technology, but the smallest glitch will leave her frustrated and unable to cope, she describes it like this:

"I get really desperate and feel alienated like, "How can that suddenly disappear without me doing anything?!?"... like "How can it do that to me!"... Why... this that is supposed to be so smart and everything... how can these things suddenly happen?..."

(Anne)

Of my Berkeley subjects it is Evelyn who falls into this category of relationships. She describes her relationship with computer technology as "improving". She is getting more comfortable with it as she uses it more, but she has the feeling that learning how to use computers takes a lot of time and she does not necessarily feel this is something she wants to spend a lot of time on, as she says:

"It's taken me a while to sort of get comfortable... installing software, and downloading things... and sort of knowing what I can do with my computer... and mostly I just do word processing on it... although not exclusively... I guess it's just a question of time... of how much time you have... and... I get the feeling that learning and knowing about how to use computers is time consuming, more than anything else... and... I'm not always too willing to make that time commitment... it's just not the most important thing to me..."

(Evelyn)

Evelyn thinks it is wonderful the way word processing enables one to edit things. She also likes the way you can get information on the internet without having to leave home, although she uses this more for everyday life purposes than in regard to her studies. She feels that the use of e-mail gives her more control over the situation than phone calls or similar. She finds it much more comfortable contacting people over e-mail. What she likes about e-mail is that it is very concrete in its use, whereas the internet is more undefined and confusing in its vastness. This is how she describes it:
"I feel like e-mail is something that... has very tight boundaries... and I don't get a lot of junk e-mail, I'm not sure... it's probably because I haven't left my e-mail message on a lot of websites... whereas the internet is something that is completely unregulated... you know, it's just this huge mess of stuff... which is interesting and fun, and can be useful... but it's not as... simply not as controlled, and sort of... limited as my e-mail... e-mail is like very practical... it's a very sort of everyday kind of thing... and I'm on the internet maybe two or three times a week... I use the internet..."  
(Evelyn)

Evelyn does not especially like spending a lot of time on the computer. She gets really frustrated when the software does not do what she wants it to and she feels unable to change that, as she puts it:

"One thing that makes me frustrated is when you... when your software does something... it's set up in a certain way, it sort of sets itself up... and you're not happy with that and a lot of times I don't know how to change it... and I don't have a whole lot of guidebooks... to tell me, like how to alter things, and so a lot of times it's just not self explanatory... its not easy to obtain, and it makes me feel so... ARGH! ... you can't make the computer do everything you want it to... it's not clear what it will and won't do..."

(Evelyn)

She does not feel like she has control over the technology although she masters it in her everyday use, as she says:

"I don't necessarily feel that I have control over it... I feel like I can use it... and use it in ways that I want... but definitely not that I have control over it... because I can't really change what it does, I can't alter that..."

(Evelyn)

Compared to her Blindern counterpart Anne, Evelyn has a wider range of use, and a higher skill level than Anne. She also seems less reluctant to learn than Anne, although she makes it clear that the technology is not important to her, and not something she wishes to spend a lot of time on. I think the main reason for the difference is that Evelyn in a greater degree than Anne has been forced to use the ICT, by her surroundings. This has lead her farther along the path towards a fully developed ICT habitus, and thus given her a slightly higher comfort level, using the technology. With this kind of relationship to ICT one is dependant on a lot of pressure from the surroundings in order to develop one's ICT habitus further. Left on one's own, the motivation to learn is just not there, and the person will do anything to avoid using it.
"Ambivalent"
The "ambivalent" type of relationship is in many ways a sort of love-hate relationship. On the one hand the person enjoys using the technology, feeling it aids her in her everyday life. On the other hand it frustrates her. The frustration may be caused by everything from low understanding of the technology to flaws in the design. Frida and Grete have this second type of relationship with the technology.

Frida describes her relationship with word processing as good, and thinks it is a major asset. She enjoys tinkering with the computer, but at the same time she has a very tense relationship with the whole thing as she feels the machine does things on its own accord, changing things without her understanding why. She does, however feel that this has improved with time, as she says:

"I have in a way, a strained relationship with the technology... at least before... I think it was because I just didn't know how to use it properly... I felt like the machine had a life of its own... it kept moving things I had written around... and it made me annoyed but it hasn't been a problem lately, so I figure that's because I know what I'm doing now..."
(Frida)

When it comes to e-mail and the internet she feels this is great for recreation between spells of work on the thesis. Searching the internet for information to use in her studies however, only makes her feel frustrated and powerless. She feels she manages the technology doing what she needs to do, but if any errors occur, she is lost, as she says:

"I'm in control of what I need... like writing documents, and... that's no problem... but I don't know how to use the file manager program... and I have no control over the hardware stuff, I don't know how to... I just know how to write, save and print, and that's kind of sufficient really... but I would really like to know a lot more... I don't feel I have sufficient control over the technology, and if an error occur, I don't know how to fix it..."
(Frida)

Grete mostly sees the computer as a useful tool, but sometimes gets really upset with it, as she says:
"I sometimes want to throw it at the wall... when the screen freezes up and I can't figure out anything... but it is a useful tool... it really is..."
(Grete)

She is completely dependent on the computer for writing her thesis. She thinks word processing makes the writing process much simpler, as she says:

"It's much easier to use word processing... when one just has gotten used to it... I mean, it looks neater and it's much easier to access than if it's hand written, or one had to use a type writer... and then it's the editing, you can't edit in the same way when not using the computer... It's definitely simpler, if one just learns how to use it properly..."
(Grete)

She does not feel that she masters the internet, but she still uses it a lot for finding articles and similar. She wishes that she knew how to use both word processing and the internet in a more efficient way. She has no problems with e-mail.

Of my Berkeley students, it is Beatrice and Diana who have an ambivalent relationship with the technology. Beatrice thinks because she used it from a pretty young age she has always been pretty comfortable with the technology. She sometimes has a little bit of pre internet nostalgia, finding it appealing to have the idea of not being bombarded with all this information all the time, but overall she thinks it has been useful. It is a pretty fundamental part of how she does her work. She describes her relationship with the technology as sort of ambivalent. She likes computers and the technology. She thinks it is fun and likes learning new things, but at the same time it makes her really frustrated when the technology is always failing in one way or another, as she says:

"I like computers, and I like technology, and I think it's fun, and... I like learning new things, and play with it... but they drive me crazy too... you know, things are always breaking and crashing and... you know, a friend who has a regular job say to me: "I don't know how anybody who doesn't have a support staff, can even have a computer". So... I'm always getting really mad at my computer, and frustrated, and... never know how much is too much time to spend... to invest on... you know, making sure you have decent equipment, and... sort of, upgrading software, and... all that sort of things... you can just spend all your time... maintaining what you've got..."
(Beatrice)

What really frustrates Beatrice, is when things go wrong for no apparent reason, this is what she answered when I asked her what frustrated her the most:
"When things go wrong… they're not necessarily for any clear reason… there's no connection between what you do, and what goes wrong… you know, you can do the same thing five times, and then three times it will work, and two times it won't work… and… yeah… the fact that there's no answers… it's not like look in a book, and say: "Oh yeah! This happened… this is the problem…" it's all sort of, trying to figure it out… try different things, talk to different people…"
(Beatrice)

Diana describes her relationship with the technology as a love-hate one. She likes it, but at times she gets really angry with it, as she puts it:

"It's definitely a love-hate relationship… because I get… very, very frustrated… probably about… once a month maybe two or three times around exam period… there are days were I just want to throw the computer out the window… because… I know there's something out… like I know there's a source… there's a source I know about… and I can't find it… and then there's the problems with the, really with the computer itself, and the connections… downloading, and the kind… whatever you need to download something… I don't have it… you know, like… it's like… there's all these mysteries out there that I can't tap… and so… I would say that it definitely provides a lot of frustration…"
(Diana)

She feels that trying to understand it is like trying to learn a foreign language, as she describes it:

"It's very foreign to me… it's like learning another language, and I've never really been able to do that very well either… that's probably my weakest… part of my brain, I think, is just learning… new jargons and stuff…"
(Diana)

She is pretty positive in general to the fact that the technology enables her to do research from home. She feels it opens up an entire world that is beyond what one deals with in everyday life, she describes it like this:

"I like the fact, very, very much that sitting at home I can do research… and be able to find things that are relevant to what I'm looking for, and… at least to get a start, you know… I always… I think that… well… from home I can tap right into the library holdings… so I can at least… at the very least I can know everything… that's at the Berkeley library…"
(Diana)
She also enjoys using word processing and feels she can do exactly what she wants on word processing. In addition, she likes the way ICT enables her to communicate with a large number of people and professors at the same time through e-mail.

Both Beatrice and Diana fit the profile of an ambivalent relationship with ICT, and although their skill level seem to be slightly higher, they relate to the technology in a very similar way as their Blindern counterparts. There are a lot about the technology they really like, at the same time other aspects of it drives them to distraction. Diana feels that a lot of her problems are due to the fact that she has never had a formal teaching in how to use the technology and she sometimes feels like she does not grasp the basics as well as she would like to. This I believe is a common feature among those who have this kind of relationship towards ICT. As their skills improve I believe they will gravitate towards either a "happy" relationship or a "tool oriented" one. This kind of relationship is thus a good starting point for further development. As one's skills improve, the relationship improves too. The person likes to use the technology, so basically the relationship is a positive one. The "hate" part relates to problems and errors. As the persons learn to handle the problems in a better way, she does not become that frustrated when they occur, and thus the relationship improves.

If the person does not posses a strong motivation to learn more however, the relationship might stagnate unless pressure from the surroundings forces the person to improve her skills, in order to meet the requirements.

"Tool Oriented"
The "tool oriented" type of relationship is in many ways a more clinical, emotionless relationship. The person's focus is on what the technology can do for her. She sees the technology as a means to an end, and is not that concerned with the technology itself, more its functions. Beate has this kind of relationship with the technology. She is taken up with what the technology can do for her, and thus falls within this category, as she says:

"I'm concerned with what the technology can do for me, and how I can adjust the technology to fit my needs... at least to a certain degree..."

(Beate)
In addition to this view, she also perceives the technology as a bit threatening. She thinks it is important to control it, but at the same time impossible to do so. As she expresses it:

"I think it's too bad that people have such an uncritically attitude towards the technology, like "Well, it just has to be like that... we need the technology". That people are not aware they can control the technology, it's possible to control it, but it takes a lot of effort... and it takes a lot of people... I master the technology, but I have no control over it... I think the control is beyond my reach..."
(Beate)

She is awaiting its development with a critical mind-set. She has overcome her fear of doing something wrong with the technology, and describes her relationship with the technology like this:

"Expectant... critical... I feel I have overcome some of the fear I had in the beginning... the fear of doing something wrong... to provoke something that would ruin whatever I was doing... on the machine at the same time I'm fascinated about what the technology can accomplish... and then there is the fear of what it's doing with us... that we use it without questioning anything about it... things that matters in our lives, our work and our society..."
(Beate)

Beate is very fond of word processing, finding it easy to adjust to her needs. She likes the editing possibilities it provides. The internet, however she finds a bit confusing, hard to adjust it to fit her needs. She gets very frustrated when the technology fails to do as supposed, as she says:

"Whenever the technology doesn't work as it's supposed to, as I want it to, it makes me really angry..."
(Beate)

Amanda and Fiona are those of my Berkeley subjects who have a "tool oriented" relationship with the technology. Amanda finds it useful, but also a bit frustrating. Frustrating mostly because there often are so many problems with the software itself, as she says:
"I find it useful, but it's still very frustrating… and I'm increasingly frustrated that there's so much potential… that they can do so many amazing things with this information technology, and yet there's still so many bugs that aren't worked out… "

(Amanda)

Fiona sees the technology solely as a tool. She therefore finds word processing infinitely superior in terms of being able to write and edit. In addition she finds the technology very valuable when it comes to storing files. She is not that impressed with the internet, as she does not find it as useful as other aspects of ICT, this is how she describes her relationship with the technology:

"I suppose I see it as a means to an end… not so much an end in it self… so I guess word processing is very valuable for that purpose… and storing files in a way that… much easier than before there were personal computers… those purposes probably stand out more than others… and then… most things like the internet or whatever… those are not so immediately… they're useful, but not as useful as the things I just mentioned… but then again… if your searching out something and you have a more or less clear sense of what you're looking for..."

(Fiona)

Amanda finds the internet very useful in the sense that it makes finding information so much easier. She gets just the information he needs and saves a lot of time and effort compared to more traditional methods. She does however like most of my subjects, find it extremely frustrating when the technology does not work as it is supposed to do, and she gets really frustrated with websites that waste her time, as she puts it:

"I get really frustrated with web sites that are just really, really fancy… because they… they waste my time… I mean… I guess, I guess my real frustration is that so much of the internet is, you know, it's a commercial enterprise, I mean, they're just trying to sell things, left, right, centre… and I've never bought any product, can't think of anything, I've never bought anything over the internet, so that's not my purpose, I mean my purpose… is other things, and so… if there's advertising all over the place, that's clearly taking time to download, and I just want to get some information… I get really frustrated with that…"

(Amanda)

Like Beate, Amanda and Fiona are concerned with the usefulness of the technology. They get frustrated mainly by aspects that reduce the usefulness. Their skill level is higher than Beate's and they seem able to make the ICT serve their needs with a little
less effort than her. Again I believe this is caused by the difference in requirements and demands at the two universities. This kind of relationship is also a good starting point. Since the "tool oriented" relationship is not as emotional as the other relationships, it is not as prone to influence by positive or negative feelings either. If one does not know how to use ICT properly one will experience a lot of frustration, as one is unable to adjust the technology to one's needs. Once a person's skills improve, however, the level of frustration will sink dramatically. A strong motivation to learn more will speed up this process, and so will pressure from the surroundings.

"Happy"
The "happy" type of relationship is an emotional one. The person is emotional in a positive way, about her relationship with the technology. She feels it makes her everyday life easier and is grateful for this. She might experience feelings of frustrations, but as long as she has reached a certain level of use, she feels that the positive aspects outweigh the negative ones.

Cecilie, Dina and Elin have a "happy" type of relationship with the technology. They are all very fond of the computer. They think word processing has been an very handy tool when writing their thesis, and do not think they could have coped without it, as Cecilie expresses it:

"The computer is extremely important when writing one's thesis... Every paper I have written... I've become more and more dependant on the computer... I do love it... it's been an incredible tool for what I'm doing now... writing my thesis... I don't think I'd manage without it..."
(Cecilie)

Cecilie remembers before she started using the computer, the writing process as completely different when using pen and paper. Now she feels unable to write in a creative way without a computer, as she describes it:

"Before, it was like writing a paper... you first had to make a draft, thinking from a pen and paper perspective... but now I can hardly think without a computer... using it for everything... spell checking... it just makes it so much simpler."
(Cecilie)

What Cecilie and Elin really like about word processing is that it enables them to do "everything" themselves. Elin believes this gives one a feeling of control,
independence and empowerment. She thinks it is liberating to know that by learning new techniques one can learn to do more and more oneself, as she puts it:

"When you write something by hand, you have to be much more uniform... you can't break in the middle of... you can't suddenly cut & paste a piece from a document you wrote two years ago... like, you have to sort of begin at the beginning and end at the end to a greater degree... you don't have to do that at all when using word processing... And then you can insert loads of graphical widgets, and that looks cool, and... I think the most important aspect is that you can sort of do everything yourself... you're not dependant on anyone but yourself... if one just learns to use the tool properly, one can do everything oneself... and that gives one control of the technology, making one independent and induces feelings of empowerment..."

(Elin)

Elin has even given her computer a pet name and feels that this is a happy relationship most of the time, despite the occasional frustrations, as she told me:

"I have a pet name for my computer at home... I think I try to make the relationship a little more personal than it really is, I don't know..."

(Elin)

They all think it would have been very boring if they did not have e-mail, and not having e-mail would have isolated them socially as well. Cecilie and Dina also find the internet an asset. Cecilie thinks it is exciting to use it and she thinks it makes things easier. Both of them in addition use it recreationally, as Cecilie puts it:

"I think it's a lovely diversion from writing on the thesis... one sort of takes a break on the internet..."

(Cecilie)

Elin is not as excited about the internet, she thinks there is far too much "noise" there, this is how she describes this:

"Noise... unwanted information, information one doesn't need, or information that disturbs you when you're looking for something else, or steals your attention, when you don't want it to steal your attention, but it sort of becomes... deafening inevitable..."

(Elin)

Even though the relationship is a happy one, there are things that frustrate them all the same. Cecilie gets very frustrated when word processing does strange things she does not understand. On the other hand she feels she is getting quite good at solving these kind of problems, as she says:
"Sometimes it does weird stuff I don't always understand... but I really think I'm getting good at cleaning up the mess, in a way... I was more frustrated before, really..."
(Cecilie)

She likes how the internet has made things easier, giving her access to the library without actually having to go there, but even though she uses the internet for searches she finds it frustrating at times, as she expresses it:

"It can be difficult getting clear answers from doing a search... that I find difficult... One gets a bunch of links... and they may not even be very relevant... Sometimes I find navigating through all the information a bit difficult... like, getting through all the dead ends, before finding what one really needs..."
(Cecilie)

Dina feels a little out of her depth when others know things she does not know. She also feels frustrated when searches on the internet fails because of a spelling mistake, as she puts it:

"I get annoyed when I do searches on the internet, and then the address is wrong, and it's as close as one can get, but the machine doesn't understand it anyway, and it hangs because you don't have the right address... that's really annoying, because if you'd asked a librarian, and made a small mistake in the pronunciation, she or he would understand you anyway... but if you write the address wrong... it can be really frustrating..."
(Dina)

Elin gets very frustrated when the system crashes. She gets upset and sad if things are lost in the crash. She saves her work a lot in fear of this, as she says:

"If the technology crashes a lot, I get very frustrated, if I lose stuff then I get very sad... I'm a freak when it comes to saving... I know it's possible to recapture something you've written, and it might even be better, but it's traumatic, because one doesn't know whether it becomes better, or if one has left something out, you know... and that frustrates me..."
(Elin)

Courtney is extremely fond of the word processing aspect of the technology. She strongly feels that the technology has made things much simpler, as it enables her to work from home, combine studying with having a home life. Having it all under her fingertips even thought she does not necessarily use it, just makes her feel more in control of her own life and situation as a student, as she says:
"I spend most of my time in front of a computer... especially this time of the semester, writing papers... it's made my life easier... it's made my life easier..."
(Courtney)

She also enjoys using e-mail, a lot both in communicating with her friends and in relation to her studies. Even though her relationship with the technology is a happy one, there are things about it that frustrates her. Internet for example, is not her favourite. She likes the fact that all the information is available at the tips of her fingers, but does not feel she handles the search engines very well. She does not trust them, and she does not trust herself to use them correctly. Doing a search she will often get a lot of results, but not the ones she is looking for. This she finds very frustrating, she says:

"Doing searches I will come up with three billion matches... and things I think should exist... I can't find..."
(Courtney)

Still, what she finds most annoying is when the technology is acting up. This is what she answer when I asked her what she found most frustrating about the technology:

"When it throws you out and... fatal error has occurred... and you didn't save the last five minutes of your work... that would be the most frustrating"
(Courtney)

Despite the occasional frustration she all in all strongly feels the technology has made her life a whole lot easier. The positive feelings for the ICT thus win out, and make the frustrations seem less important in the long run.

Gabby is comfortable with the technology and feels that it is definitely part of her mind set and experience of the world. She feels that word processing is part of the way she writes and cannot imagine writing without the use of a computer, as she expresses it:

"Without word processing, I would just... I would be screwed, like I need it... that's probably my favourite thing about the computer..."
(Gabby)

She feels the technology has made her life easier and finds the internet very helpful in terms of research, especially since she hates going to the library. She loves e-mail and
the way it enables her to communicate with friends all over the country and she has even made new friends through it, as she told me:

"I actually met one of my best friends over e-mail, and we've only met once, and she's still one of my, like closest friends... we've been friends for like four years now..."
(Gabby)

Gabby dislikes that the computer does not come with a manual that can help her figure it out things like the internet. Despite being basically happy with the technology, she gets really frustrated when the computer freezes up or gives her error messages and she does not know why. A new computer terrifies her and she just does not feel in control at all, although she gets more comfortable as she gets to know it, this is how she describes this process:

"When I got the computer… the first two weeks I'm terrified of it… like it's really weird, like I just do not feel in control of the computer… and I don't feel like I know it, I don't feel like I know where thing is… and this computer I've only had for like a month or two, so I'm still getting used to it, and I still feel like I don't totally know… know it that well… I will get more comfortable with it, but… it's weird, because I start out by feeling not very comfortable with it, and very not in control of it… so…"
(Gabby)

Like Courtney, she also gets frustrated using the internet, being unable to find what she is looking for. Still, as with Courtney the positive feelings are stronger than the frustrations, and they thus perceive the relationship as happy despite the problems, much like their Blindern counterparts. The "happy" kind of relationship does not exclude frustrations, but it is basically a positive one despite of this. Although there might be a lot about the technology the person does not have a grasp of, and her user level might be low, she focus on the positive aspects of the technology. She is absorbed by the positive contribution of the technology in her everyday life. There may be a lot that frustrates her as mentioned, but the positive side of the ICT wins out. A person with this kind of relationship with ICT has often a motivation to learn more, as this would give her even more advantages in using it.
8.2.4 Demands and pressure

Having examined my subjects' relationship with ICT, and the influence of motivation, I will now proceed to look at how demands and pressure from the surroundings might influence their use of the technology, their relationship with it and their development of a fully developed ICT habitus.

Blindern

In chapter six when exploring the influence of ICT capital I examined the contribution each university made to the promotion of ICT habitus development among its students (6.3). Blindern did not do so well, falling close to the "Low on nurturing an ICT habitus development" ideal type I presented in chapter four (table 4.3). When it comes to requirements to use the technology, made of its student, Blindern does not do so well either. The requirements made of the students I could discover are as follows:

- Papers has to be machine written
- In order to get an e-mail account one has to take an introduction course

Note that it is not a requirement to get an e-mail account, just an offer. The only real requirement is thus that papers have to be machine written. Interviewing the Blindern students I found that most of them feel able to handle word processing in order to meet the requirements. According to my theory having had to use the technology has gradually made them develop ICT habitus to deal with the use of it. Their skill level, however as I illustrated in the previous chapter (7.3.2) is not as high as among the Berkeley students. This I believe is related to how long this requirement has been in place. Anne who has studied at Blindern since she first started her studies did not have to use word processing until she started working on her thesis. For one thing she really did not have to write a lot of papers to start with, and the ones she wrote, she wrote by hand, as she says:

"...in my two first primary courses it was no problem delivering hand written papers... it was never many papers we had to turn in, anyway..."

(Anne)

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14This does of course refer to the conditions at the time I did my interviews. The last couple of years this has improved a lot.
My Berkeley subjects on the other hand have mostly had to deliver machine written papers since high school. Before the computer became accessible they remember having to use typewriters, as Evelyn told me:

"When I was in high school… we were right at that process where the teachers were slowly starting to ask that students typed things… it wasn't always demanded… so I was really… at that point I really… I remember writing things out by hand, and then typing them out… so I can sort of remember what it was like before… and those were like short things… you know, like five pages… I can't imagine writing a 50 page something by hand… unimaginable…"

(Evelyn)

The educational system being different, they also had a lot more paper to turn in at any given time, than the Blindern students\textsuperscript{15}.

As I have already pointed out, the more one uses ICT, the more internalised the use becomes and the closer one comes to a fully developed ICT habitus. The length of time one has had to use the technology thus becomes an important factor.

\textsuperscript{15} At the present time this has also changed, as the old system of grunnfag, mellomfag and hovedfag has been replaced by bachelor and master degrees, and is now much more similar to the system at Berkeley.
Berkeley

Berkeley did better than Blindern under point 6.3, and from what I could discover, these are the requirements made of the Berkeley students:

- Papers have to be machine written
- One has to have an e-mail account
- One has to use e-mail in relation to classes

Berkeley, like Blindern require papers to be machine written, but this has been a requirement for a longer period of time than at Blindern, and in addition the use of e-mail is also a requirement at Berkeley. This in combination with a higher amount of ICT capital and a more nurturing environment (6.3.2) is in my opinion what gives the Berkeley students an edge over the Blindern ones.

8.3 Summary

Towards the end of chapter four I presented a figure illustrating the development of an ICT habitus, going through the three stages I then outlined (figure 4.2). Since then I have added a lot to the picture. I have presented each of the three stages in an ICT habitus development. At each stage I have examined the different types of ICT capital and their influences on the process. This can be summarised in figure 8.5:
Figure 8.5: Summary

**Pre-ICT Habitus**

**Enabling Factors**
- Resources at home
- Parents' involvement
- Resources at school
- Help from family or friends
- Access to technology at home
- Positive attitude from students
- Available and relevant courses
- Positive attitude from professors
- Access to technology at university
- Help service at university

**Coercive Factors**
- School's involvement
- Mandatory courses
- Necessary to use technology for assignments and papers
- Necessary to use technology in study groups and classes
- Pressure from surroundings

**Initiation**
- Trial and error

**Almost there...**

**Fully Developed ICT Habitus**

(Source: Author’s research with input from Terje Grønning)
The enabling factors are those that nurture an ICT habitus development by creating favourable conditions for learning, while the coercive factors speed up the process of ICT habitus development by forcing one to use the technology. The stage of trial and error is the stage where one meets the most influencing factors. I believe that the more favourable the conditions are at this stage, the less time one spends in it before one reaches the level of advanced use, and thus move on to the next stage. The hardest part is in my opinion crossing the gap from almost there to a fully developed ICT habitus. I believe this is a very gradual process where it is difficult to say exactly when the transition is completed. When the use of ICT is internalised and one takes the technology for granted, the journey is at an end, and from then on the process is about further develop one's ICT habitus.

Looking at the factors influencing the development of an ICT habitus I believe the main reason why the Berkeley students have a higher developed ICT habitus than the Blindern ones, is that they have been required to use the technology regularly for a longer time than the Blindern students. In addition conditions surrounding the use of ICT have been better arranged at Berkeley. The best way to nurture the development of an ICT habitus, as I see it, is a combination of creating an environment with easy access to the technology, support services and relevant courses, and then make requirements that coerce the students to use the technology on a regular basis. In the light of this it is interesting to note that none of the two universities had any clear requirements when it came to using the internet, and this was the aspect both groups of students felt the least in control of.

I have now explored the three steps towards an ICT habitus, examining and discussing the different factors influencing and shaping the different stages along the way, and have thus almost reached the end of this thesis as well. In the following chapter I will return to the beginning and examine how my original hypotheses have held out against the onslaught of my analysis.
9 Conclusions
In this chapter I will start by looking back at my hypotheses. Then I will present the steps and stages I have introduced throughout the last chapters. Finally, I will summarise my findings and round off by considering possible future studies within this field.

9.1 Summary
If we go back to the introduction we will find that my hypotheses were as follows:

1. My subjects started out with a pre ICT habitus and as they first encountered the technology and started using it they also started developing an ICT habitus to deal with the technology.

2. My Berkeley subjects would be further along in developing an ICT habitus as they probably encountered the technology at an earlier stage than my Blindern subjects.

In order to explore whether these hypotheses had anything in common with my actual findings, I constructed a set of theoretical tools to examine the collected data. I divided the journey towards a fully developed ICT habitus into three stages, presenting a step within each stage that had to be attained in order to move on to the next level of development. This can be summarised in figure 9.1:
9.1.1 What did I find?
I did indeed find that my subjects could be found along the path towards a fully
developed ICT habitus. Some could be found not far from the pre ICT habitus ideal
type I constructed, at the lower end of the stage of trial and error. Others could be
found at the very end of the path almost but not yet there. None were to be found at
either extreme of the journey, as is to be expected when dealing with ideal types. My
findings thus seem to support the first of my two hypotheses.
Exploring the stage of initiation where my subjects had their first encounter with the
technology, I also found that the Berkeley students on average encountered the
technology earlier than the Blindern students. Further examination of the empirical
material revealed that the Berkeley students on average also were closer to a fully
developed ICT habitus than the Blindern ones. Try as I might I did not however find
any clear connection between these two findings. The empery just did not support the
second hypothesis. So why were the Berkeley students closer to a fully developed ICT habitus if the early encounter was not the reason? Searching for the answer to this I continued to examine the empirical material and after a while a pattern seemed to form. Much more important than the time of the first encounter, as it seemed was how early one started to use the technology on a regular basis. In order to have a continuous ICT habitus development it seemed one had to use the technology regularly in a purposeful way. Having made this deduction based on my findings a new question emerged: Why then did the Berkeley students start using the technology on a regularly basis earlier than the Blindern ones? At the time the Berkeley student started using the technology regularly almost all of my Blindern students had been in touch with the technology too, so it was not the availability itself that was the problem. So why was there a difference?

Further exploration of the empirical material seemed to indicate that there were two factors in particular contributing to the difference: motivation and coercion. I soon found that motivation, which was closely linked with the relationship one had with the technology, although important could not explain the difference on its own. In relation with coercion, however the picture made more sense. Digging deeper I discovered that the Berkeley students on average had been "forced" to start using the technology earlier than the Blindern ones. They were required to utilise the technology in order to meet the demands made by their surroundings. While most of the Berkeley students encountered these types of demands as early as high school, the Blindern students on average did not have to fulfil any requirements of this sort until a few years into their university studies. Coercion together with motivation to learn thus seemed to be the main reason for the difference between the two groups of students, in the progress towards a fully developed ICT habitus. From a cross cultural perspective the reason for this dissimilarity was the differences in the organisation of the educational systems in the two countries. I also noted that the Berkeley students had a slightly higher level of competitiveness than the Blindern students, and this I also believe is due to cultural differences.

16 A lot of other factors like resources, help and access as illustrated by figure 8.5 also contributed, but none of these factors on their own, in my opinion, had anywhere near the impact of motivation and coercion.
9.2 What can be done next?

When I first decided to utilise the concept of ICT habitus I did a search on the internet using the search engine "Google". I tried to search for both ICT-habitus and ICT+habitus, and I did not get one single hit on either. Very recently I did the same thing, and I got the following results:

Results 1 - 10 of about 823 for ICT+habitus.
Results 1 - 1 of 1 for ICT-habitus.

The first search gave 823 hits. These results did only contain "ICT" and "habitus" in proximity, not in direct contact, as far as I could tell. I did not go through all the results, as that would have been far too time consuming. Some of them did talk of creating a change in habitus in order to incorporate ICT in society, but none seemed to actually talk of an ICT habitus.

The other search gave only one hit and this was not a document, just a comment noting that the concept of ICT habitus has become part of the language.

As I noted in the introduction this is a rapidly changing field, and there is no immediate danger of running out of phenomena to study. Within the field of web and internet sociology one can find reflections of almost every aspect one encounters in society at large. A lot has already been done by authors like Sherry Turkle in looking at how individuals interact with the technology and through the technology. My focus has been in how individuals internalise the use of ICT making it part of their habitus.

When looking at what can be done to further illuminate the field the first thing that strikes me is that it would be very interesting to do the same kind of study now. Since so many years have passed since I did my interviews and there has been so many changes at Blindern it would be very interesting to look at how the following generation, "Generation Y" deals with the technology. Have they reached the level of a fully developed ICT habitus? Do they fit within the conceptual framework I have constructed? If one did a similar study at Berkeley and Blindern today, would there still be a difference?

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17 http://www.google.com
19 It should be noted that I have not made an extensive search of the French literature in this area, and there might thus be information I have missed out on.
It should also be noted that I have explored the development of ICT habitus on a micro level. Further studies could probably benefit by using it in larger scale investigation. How does society nurture ICT habitus development in its population? In this thesis I have tried to lay down a theoretical groundwork in the studying of ICT. It could also be beneficial to continue the theoretical development in order to include other approaches, to further the study of ICT and its role in society.

Another aspect I think would be interesting to study is the communication part of ICT. As I noted in examining my subjects' use of e-mail things they said hinted towards a change in their social communication patterns. As mentioned I believe the use of SMS in many ways has usurped the role of e-mail in the daily communication among friends. The number of mobile phones in the Norwegian population has increased from two hundred thousand in 1990 to almost four million today\textsuperscript{20}. I believe the expanded use of SMS may have had an even larger impact on the language as SMS has a limited number of characters, causing simplifications and abbreviations of words. As most new mobile phones come with a built in dictionary that suggests words as one type them, it have caused words to gain new meanings. If one tries to write the word "dust" (moron) in Norwegian, the first word suggested is "furu" (pine). The result is that among some teen groups "furu" has replaced "dust" as a term of abuse. The use of SMS has also had a huge impact on the social life of hearing impaired people, as they can use mobile phones to stay constantly in touch with friends through SMS. Communication and networks among people is an important part of the sociological field. But not everyone feel comfortable using a mobile phone or SMS, for that matter. Can we talk about a pre SMS habitus vs. a fully developed SMS habitus as well? And what are the consequences of having an under developed SMS habitus? That is for further studies to find out…

\textsuperscript{20} http://www.teknologiradet.no/html/480.htm
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The information I provided that was posted on the graduate students of sociology's mailing list at Berkeley, and on the pamphlets I put up at Blindern were along the following lines:

I'm a graduate student in sociology, visiting Berkeley from the university of Oslo, Norway. I'm doing a cross cultural study of students use of Information and Communication Technology. I am looking for graduate students willing to be interviewed. The interview will be conducted as a conversation, lasting approximately one hour. The interview will be confidential. If you would like to help me, pleas contact me at : <phone number> and ask for Hilde Tiplestad, or e-mail be at <e-mail address>.

The pamphlets at Blindern were in Norwegian and did not off course not mentioning me visiting from university of Oslo. Apart from that I tried to keep the wording as similar as possible.
**Interview guide**

- Gender, Age?
- What level in your studies have you reached, Which subject combinations do you have in your degree?
- How long have you been studying at Berkeley?

**Introduction**

*a) “Can you remember the first time you used a computer?”*

- who introduced you to the computer
  - parents/family/friends
- what kind of use
- what kind of feeling were you left with afterwards
- how will you say this has affected your use of the computer
- did you have access to a computer at home
- did your parents encourage or discourage your use of the computer
- did any of your friends have a computer at home
- did your friends encourage or discourage your use of the computer

*b) “When and in what way did you first encounter the Internet?”*

- who introduced you to the Internet
  - parents/family/friends
- what kind of use
- what kind of feeling were you left with afterwards
- how will you say this has affected your use of the Internet
- did you have access to Internet at home
- did your parents encourage or discourage your use of the Internet
- did any of your friends have Internet at home
- did your friends encourage or discourage your use of the Internet
c) “Did you ever use a computer or the Internet in school, before going to the University?”
   - how was the teacher’s teaching qualifications in this area
   - what was emphasized in the class
   - what kind of feeling were you left with afterwards

The situation as a student

“As a student, how will you say the computer technology has affected your situation?”
   Can you imagine how it would be like without it?”
   - which of the different applications of this technology do you use on a daily basis
     (-word processing, information-search on the net, chat/news-groups, e-mail)
   - what kind of use
   - what is the gain, what do you get out of it
   - feelings around the usefulness of the different applications
   - how is the computer access
   - how is the Internet access
   - what is the attitude of professors encouragement/discouragement/indifference
   - how is the possibilities for learning how to better use this technology
     (-classes, courses, training)
   - have you ever taken any classes like this
   - what is the attitude of your fellow students

Thesis and papers

“How do you feel about computer technology compared to more traditional methods, when for example working on a paper?”
   - library vs. information-search
   - chat vs. face to face interactions
   - e-mail vs. direct approach
   - using a word processor
- are there any skills connected to using the computer you would wish to acquire
- are there any skills connected to using the Internet you would wish to acquire
- how are your possibilities for learning these skills
- do you feel the outcome of using the Internet is worth the time spent using it

**Personal relationship with the computer**

a) "**How would you describe your relationship with computer technology?**"
   - what do you like about it
   - what makes you frustrated
   - do you feel you have control over the technology
   - what user-level would you say you are on compared to other students
     -(average, below average, above average)

b) "**How would you describe your relationship with the Internet?**"
   - what do you like about it
   - what makes you frustrated
   - do you feel you have control over the use of the Internet
   - what user-level would you say you are on compared to other students
     -(average, below average, above average)

c) "**And what about e-mail?**"
   - what do you like about it
   - what makes you frustrated
   - do you feel you have control over this aspect of the computer technology

d) "**Are there any of these user areas mentioned you find easier to use than others?**"
   - is there something you wish you were better at
Ending

a) “What role do you think the computer technology will play in your future life?”
   - in your work setting
   - are you ready

b) “Is there anything connected to your use of computer technology and the Internet you feel has been left out in this interview?”

- How long have you been living in The United States of America?
- What is your nationality?
**Intervjuguide**

-Kjønn, Alder?
-Hvilket nivå har du nådd i studiene dine?
-Hvilken andre fag har du i graden din?
-Hvor lenge har du studert ved Blindern?

**Introduksjon**

a) “Kan du huske første gangen du brukte en computer?”
- hvem introduserte deg til det
  - foreldre
  - venner
- hva slags bruk var det snakk om
- hvordan opplevde du dette
- hvilken følelse satt du igjen med etterpå
- hvordan vil du si dette har påvirket din videre bruk av computere
- hadde du tilgang til en computer hjemme
- var dine foreldre positive, negative eller likegyldige til bruken av computer
- hadde noen av vennene dine computer hjemme
- var vennene dine positive, negative eller likegyldige til bruken av computer

b) “Når og på hvilken måte kom du første gangen i kontakt med internett?”
- hvem introduserte deg til det
  - foreldre
  - venner
- hvilken bruk var det snakk om
- hvordan opplevde du dette
- hvilken følelse satt du igjen med etterpå
- hvordan vil du si dette har påvirket din videre bruk av internett
- hadde du tilgang til internett hjemme
- var dine foreldre positive, negative eller likegyldige til bruken av internett
- hadde noen av vennene dine internett hjemme
c) “Brukte du noensinne en computer eller internett på skolen, før du begynte på universitetet?”

- hvordan var lærerens kompetanse på dette området
- hva ble vektlagt i undervisningen
- hvilken følelse satt du igjen med etterpå

Studiesituasjonen

“Som student hvilken betydning vil du si at computer teknologien har hatt for deg?”

- hvilken av de forskjellige elementene ved denne teknologien bruker du til daglig
  (-tekstbehandling, informasjonssøk på nettet, chat-/news-groups, e-mail)
  - hva slags bruk
  - hvilket utbytte har du av dette
  - følelser rundt nyttigheten av de forskjellige bruksområdene
- hvordan er PC tilgangen
- hvordan er internett tilgangen
- hvilken holdninger møter man fra professorer og vitenskapelige ansatte
  positiv/negativ/likegyldig
- hvilken mulighet for opplæring i hvordan bedre bruke denne teknologien finnes
  -(opplæring, kurs, trening)
  - har du noensinne tatt et slikt kurs
- hvilken holdninger møter man fra medstudenter
- føler du at teknologien fremmer kommunikasjon
  - selv med mennesker du aldri har møtt
  - internasjonalt
Oppgaveskriving

“Hvordan opplever du bruken av computer teknologi i forhold til mere tradisjonelle studie metoder, i forbindelse med for eksempel oppgave skriving?”
- Bibliotek/litteratur søk vs. infosøk på internett
- chat-news-groups vs. (face-to-face) interaksjon
- e-mail vs. direkte kontakt
- skriveprosessen, bruk av tekstbehandling
- er det noen ferdigheter knyttet til bruken av datamaskin du gjerne kunne tenke deg å lære
- er det noen ferdigheter knyttet til bruken av internett du gjerne kunne tenke deg å lære
- hvordan er dine muligheter for å lære disse ferdighetene
- hvordan synes du utbyttet er i forhold til tidsbruk når det gjelder bruk av internett

Personlig forhold til datamaskinen

a) “Hvordan vil du beskrive ditt forhold til computer teknologi?”
- hva liker du med den
- hva gjør deg frustrert
- føler du at du har kontroll over teknologien
- hvilket bruker nivå vil du si du befinner deg på sammenliknet med dine medstudenter
  -(gjennomsnittlig, over gjennomsnittet, under gjennomsnittet)

b) “Hvordan vil du beskrive ditt forhold til internett?”
- hva liker du med det
- hva gjør deg frustrert
- føler du at du har kontroll over bruken av internett
- hvilket bruker nivå vil du si du befinner deg på sammenliknet med dine medstudenter
  -(gjennomsnittlig, over gjennomsnittet, under gjennomsnittet)
c) “Og hva med e-mail?”
   - hva liker du med det
   - hva gjør deg frustrert
   - føler du at du har kontroll over detter aspektet av computer teknologien

d) “Er det noen av disse bruksområdene du finner lettere å bruke enn andre?”
   - er det noe du gjerne skulle vært bedre til

Avslutning

a) “Hvilken rolle tror du computer teknologien kommer til å spille for deg i fremtiden?”
   - i jobbsammenheng
   - føler du deg klar for dette

b) “Er det noen sider ved din bruk av og ditt forhold til computer teknologi og internett du føler ikke har kommet frem i dette intervjuet?”

-Hvor lenge har du bodd i Norge?
-Hva er din nasjonalitet?