

# Around the Screen

Computer activities in children's everyday lives

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Linköping in April

Pål



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# Computers in children's everyday life

When you enter the room you see a bed placed along the wall and opposite the bed, to the left of the door, there is a writing desk. On top of it there is a computer with an internet connection. In the corner to the right of the door, the TV and a video recorder are hanging right under the ceiling. On the floor, under the TV, a stereo is placed. The room is about 10 square meters. We are sitting in Jon's (13 years) bedroom after eight hours at school.

Jon: 'you really have to play a lot to become a member of a real clan you know'

Pål: 'are you a member of any clan'

Jon: 'not really, I'm not good enough yet but maybe in a year or so'.

Then, Jon shows me how 'Counter Strike' works and the main tools that he uses while gaming, a headset and MSN.

Field notes 04.08.2003

Online chatting and gaming are related to virtual spaces and are parts of many children's everyday life (Erstad, 2005; Gee, 2003; Livingstone & Bovill, 2001; D. Miller & Slater, 2000; Sjöberg, 2002; Tapscott, 1998). Some computer activities occur more often and are more interesting for the children than others are. In the present study of children's *computer activities*, I have focused on activities such as MSN chatting, playing computer games and activities around the screen, such as talk about computer games. These were reoccurring activities that the children took the initiative to at school and in their homes.

Returning to the field notes, Jon is youngest of three siblings, all of whom have computers in their own bedrooms. Jon tells me that his brother is the best Counter Strike player in the school, and that he is a member of a good clan. His sister is cool, but she 'just' plays The Sims and chats online. Jon and I have just landed in his bedroom; we have spent one day at school, where part of the schoolwork has been related to a project on travelling in the US. He and his classmates have spent a couple hours searching the Web for information about places to visit during their trip. They have started writing their report, and copied pictures from well-known places, which they have pasted on faces of peers while laughing loudly. During the breaks, Jon and some of his friends have checked their accounts on the web community for messages. While Jon shows me how 'Counter Strike' works, he tells me that he usually plays with a couple of friends from another school. While they are playing, they mainly use MSN to discuss strategies and moves.

This glimpse from a regular day in Jon's life tells us that computers are accessible and used in places where he spends a great deal of time every week: the school and his home. It also tells us that computers are 'multi-purpose tools' in Jon's life, that they can be used for a wide range of activities

such as writing, gaming, communicating, information searching as well as programming, watching movies and listening to music. Computers are part of many different activities in everyday life, school as well as leisure. He uses the same tool (the computer), but for different purposes and in different activities. According to Tapscott (1998), computers are like air for contemporary children, something that is taken for granted. This is the starting point of the present doctoral thesis, and from this point, I pose questions about how computers are used in everyday activities.

## The debate about children's computer activities

Whenever new communication technologies emerge, young people are seen as both pioneers and victims, or, as T. Miller (2006) writes: 'they are held to be the first to know and the last to understand the media – the grand paradox of youth' (p. 7). This underlines that children's computer activities are located in a field with paradoxical tensions connected to age, and this can be seen in contemporary writings, in the mass media as well as in academia. The combination of children and digital technology has often been seen as positive, indicating a better and improved future (Gee, 2003; Papert, 1993; Tapscott, 1998). In addition, digital technology has been seen as the solution to the problems of the educational system (Cuban, 2001), one of the main arenas for children. Those who have rather uncritically adopted a positive stance on what may be sustained by and through digital technology have been called 'technophiles' (Walkerdine, 1999). However, the combination of digital technology and children, especially with regard to Internet and games, has also been seen as problematic (Arriaga, Esteves, Carneiro, & Monteiro, 2006; Ellneby, 2005; Kautiainen, Koivusilta, Lintonen, Virtanen, & Rimpelä, 2005). Sefton-Green (1998) claims that what he calls digital culture has become a key site for anxiety about the changing nature of community. In the public debate, topics such as sexuality, obesity, violence and addictiveness have been discussed and related to the internet and computer games. Those who focus mainly on problems in relation to digital technology have been called 'technophobes' and are often characterized in terms of a 'moral panic' (Crichter, 2003, 2006; Drotner, 1999).

The positions taken in debates such as this tell us something about how digital technology is seen and treated, not only in relation to age, but also in relation to other activities in everyday life. The stances above, those of the technophobe and the technophile, both portray digital technology as a factor that influences society. Digital technologies are presumed to have more or less the same impact in all settings (either negatively or positively) (Woolgar, 2002). This means that both camps ignore the fact that digital technologies vary across time, space and activities. In contrast, we have those who take the opposite position, claiming that digital technologies are neutral tools whose impact on the situation is dependent on the user's intentions. According to Bromley (1998), this later view can be seen when computers are referred to as intellectual tools that can be flexibly applied to whatever problem one wishes. Bromley (1998) claims that 'the "tool" metaphor is appealing but misleading: tools can be

flexible but only within certain limits, because their design inevitably favours some applications and prohibits others' (p. 3-4). This means that, for instance, computers can be perfectly suited to playing computer games, but less well suited to bicycling. Artefacts are made to offer certain kinds of action and depend on human action to consummate those ends, but the predisposition is built into the design of the artefact.

Technophobes and technophiles alike seem to be driven by a political agenda that involves 'blackboxing' (Latour, 1999), that is, glossing activities – children's computer activities – without seeing what is actually done. What is needed is to unpack this blackbox by focusing on what children are doing when they use digital technology; thus we must look beyond moral panics and technophilic dreams. Digital technologies are to be seen as artefacts that offer ways of acting, making meaning, as well as being carriers of ideologies (Bromley, 1998; Säljö, 2000). This means that we have to investigate children's activities *in situ* to see how different actors, humans as well as things, contribute to the situation at hand.

## Why study children's computer activities?

Turkle (1984) noticed in her study of children and computers that not only has the computer become a metaphor in describing humans, but many children actually talk about computers in human terms, as actors with a will of their own. Humans' ways of thinking have been compared to computer processing, and computers have been compared to humans; both are seen in light of the other. This has implications for how we understand, relate to and organize our surroundings. For example, Johansson (2000) shows how children who were frustrated often turned directly to the computer. This usually occurred when the computer did not do what it was expected to, or if the computer was seen as slow. Thus, digital technologies have brought with them the idea that we no longer simply use machines, we interact with them (Suchman, 1987).

Interactivity has been a reoccurring concept in discussions of the importance of digital technologies. This is particularly true in the field of artificial intelligence, but also in relation to computer games. Interactivity is brought forward as one of the distinguishing features of computers, as compared to older technologies and media. This is expressed by Facer et al. (2003) when they claim that 'games are seen as a new form of media, enabling true "interactivity" for the first time, as the user is said to control and determine narrative in a way impossible in traditional linear media such as television, books or films' (p. 71). What is highlighted is that the relation between users and digital technology differs compared to users' relation to other types of technology. Regarding digital technology, it cannot be taken for granted who causes action and how these actions are performed. Computer games exemplify this in the sense that they are not actualized before anybody is playing the game. This is what Aarseth (1997) calls the performative dimension of 'cybertexts'; a user is needed to complete the text. It is these forms of 'textual' and 'technical interactivity' that have often been discussed in relation

to computers, games and the internet. Another dimension that has also been discussed, particularly in relation to online communities and chat, is 'social interactivity', which is the ability of a medium to enable social interactions between individuals or groups (Fornäs, 2002). The medium, often the internet, is focused on here as something that has changed the conditions for communication among people (Bell & Kennedy, 2000; Benwell & Stokoe, 2006; Pargman, 2000; Sundén, 2002). Thus far, however, there has been little work on children's interactions with computers (Hutchby & Moran-Ellis, 2001; Klerfelt, 2007; Turkle, 1984). And there has been even less work done on the 'social interaction' of which computers are a part.

The internet and computer games have made it possible to live and communicate through new media, but it is not until we see how these artefacts are used that we can understand the consequences (Säljö, 2007). Still, little academic writing has been based on detailed research on computers in action in children's everyday life (Holloway & Valentine, 2001). This makes it important to study the use of digital technology in detail. Despite the fact that computer games have been commercial products since the 1970s (Ungdomsstyrelsen, 2006), it has been claimed that 2001 was year one in computer game studies (Aarseth, 2001). This was the year when the first peer-reviewed journal appeared that was dedicated to computer game research, which points to the fact that relatively little research has been done in this field. Others have argued that computer games can be seen as a new art form (Gee, 2006), and that they are '... cultural projects saturated with racialized, gendered, sexualized and national meaning' (Leonard, 2006 p. 83). Computer games do not exist in a social vacuum, and the reason for studying games and gaming has as much to do with understanding society as with understanding what happens in the practice of gaming (Williams, 2006).

According to Hutchby (2001), the relationship between humans and technology is interesting to study because it invites us to ask some fundamental questions about human sociality in (post)modern societies. Studying children around the screen gives us insights into patterns of relations, social opportunities and varying forms of agency. There are several reasons to study computer game activities and online chat activities, one being that playing computer games and chatting are reported as two of the most popular computer activities among children in the industrialized Western world (Erstad, 2005; Livingstone & Bober, 2005; Livingstone & Bovill, 2001; Medierådet, 2005; SAFT, 2003). Not only are playing computer games and online chatting ordinary activities in children's everyday lives, but they are also relatively new activities carried out on a large scale. In short, they are social activities that many children are part of on a regular basis, and yet little research on their actual use has been done.

## Purpose of the study

The present doctoral thesis explores how digital technology is used among children. In short, the purpose of the thesis is to study children's computer activities<sup>1</sup> and what they might tell us about the social organization of children's everyday life, more specifically *how children participate* in computer game activities and online chat activities. This overall purpose will be further specified and developed in detail in the four studies. These computer activities have been studied in two settings: the school and the home.

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<sup>1</sup> In the present text, computer activities include playing games on computers, videogame consoles, surfing the Web and talking about computers and computer games. This means that I am dealing with only a few types of digital technologies.

# Computer activities in several settings

Studies of young people and digital technology have been conducted in several disciplines and from different points of view. The present study deals with computer activities in children's everyday life. When exploring earlier research, two principles have guided my search. First, I have looked for research that deals with *children's* use of digital technology. This kind of research has mainly been focused on educational settings and families. Second, I have searched for research on digital technology and humans in interaction. Thus far, these kinds of studies have mainly been performed in workplace settings, but I find it essential to adopt a similar perspective on children's computer activities.

Studies of digital technology in action show how the boundaries between what has been seen as education, work and leisure are blurred (Buckingham & Scanlon, 2003; Facer et al., 2003; Hernwall, 2001; Johansson, 2000; Kerawalla & Crook, 2002). Yet, in the following, I will distinguish between research in educational settings, research in families and research in workplaces. Moreover, this part of the thesis offers a discussion of where everyday computer activities have been situated in space.

## Research in educational settings

Educational institutions have a long tradition of testing and using new media and new technology (Cuban, 1986). A prominent feature of discussions on digital technology and young people is that this technology is inherently educational (Sefton-Green, 1998). Young people spend much of their awaking time in educational institutions such as schools and kindergartens, which are important places for formal learning as well as more informal peer activities. Studies of children using digital technology have largely been conducted in educational settings (Almqvist, 2005; Enochsson, 2001; Erstad, 2005; Johansson, 2000; Light & Littleton, 1999; Livingstone & Bober, 2005; Rye & Simonsen, 2004; Säljö & Linderoth, 2002; Wegerif & Scrimshaw, 1997). Since the 1970s, the research field of education/learning and computer activities has moved from behaviouristic and cognitive theories on learning and knowledge to socially oriented points of view, influenced by theoretical directions such as social constructivism, socio-cultural theories and situated cognition (Koschmann, 1996). This means that the social situations in which production of knowledge and learning take place have been emphasized.

Research conducted in educational settings often deals with the relationship between 'out of school' (out of frame) activities and 'school activities' (in frame), where the focus has been on playing computer games, information searching or use of other educational tools based on computer programs. For instance, Almqvist (2002) has studied use of an edutainment program in chemistry. He shows that

students use their everyday knowledge as a resource in solving problems, instead of using the experience gleaned from chemistry lessons. Similar ways of reasoning can be seen in Wyndham's (2002) study, where he claims that students do not learn what concerns the subject, but how to deal with the technology. In short, children do not learn what teachers and the schools want them to. This can partially be seen as a contrast to what Scrimshaw (1997) claims, '... that children tend to exhibit a very high proportion of on-task talk when using computers' (p. 220). This points to a tension related to using technology in education, in terms of on-task and off-task activities. The school, as an institution, has often seen new media as problematic, as phenomena that do not fit with the social and cultural construction of what school is; school and leisure have been seen as each other's counter-cultures (Kryger, 2001). The studies above are examples of research in educational sites that deals with children's use of digital technology in terms of 'in-frame' and 'out-of-frame' activities. This must be understood in light of the fact that the main interest is often to investigate what children learn in school in relation to what is described in the curriculum.

Research in educational settings has also focused on use of computers in social interaction. A reoccurring topic is the study of how students cooperate while using the computer to accomplish school tasks (Alexandersson, 2002; Birmingham, 2002; Light & Littleton, 1999; Wegerif & Scrimshaw, 1997). Birmingham et al. (2002) focused on the interaction between the computer and three persons (two students and one teacher). They documented how computers became a third party that participants took into consideration before taking the floor in the interactions between students and teachers. This had an impact on how turn taking developed in situations where technology was present. In addition, they show how pointing locates the next activity in space and time, while navigating between past work and upcoming moves. According to Birmingham et al., pointing allows the participant to move from one activity to another without needing to make it explicit verbally, and they suggest that the pointing action is the first pair-part of what is referred to as an 'adjacency pair' in conversation analytical literature.

In a study of computer activities and gesture use, Klerfelt (2007) has investigated preschool children and their use of computers in the creation of stories with computers. She shows how 'the screen functions as a visual basis with which they interact'. When handling technical operations that were carried out with support from the software, utterances and gestures, such as pointing, were used in the interaction. For instance, when one of the participants pointed to a particular place on the screen, the other usually responded by acting with the mouse. She argues that one of the gestures follows another and becomes crucial for the understanding of which manoeuvre should be made next. Klerfelt discusses indexical gestures, in this case to draw attention to where and how to solve a particular problem in a group of two children simply by pointing at the screen, usually used in discussions of technical problems. Moreover, she explores representational gestures, movements that symbolize support for the narrative process by for instance 'drawing' the symbol as a gesture when suggesting

where to move the mouse on the screen. What Klerfelt also argues is that when the complexity of the task increases, it 'requires a mutual and simultaneously verbal and gesticulated dialogue' (p. 356), which means that pointing was used neither as an indexical nor as a representational move. When the complexity increased, pointing is complemented with talk, or vice versa.

In a study of children's use of a computer in a preschool, Ljung-Därf (2004) shows how the computer contributed to the distribution of what she calls subject positions among the children. Ljung-Därf argues that the construction of computers allowed only one child at the time to control the keyboard, a subject position she called the 'owner'. This must be seen in relation to the 'participator', who was located close to the screen and interacted with the 'owner', and in relation to the 'observers', those who did not actively participate in the activity. Moreover, she argues that the child who inhabited this position was also the person in control of the situation, and when positions were transformed and changed, this always happened in relation to the 'owner'. Ljung-Därf (2004) shows that the use of computers/games becomes a resource in negotiations for positions and identities in the social landscape. Studies of younger children's use of technology show how technology matters in the social organization of everyday life.

Vered (1998) investigated students playing computer games in an elementary school and argues that the observer's status should not be understood as limited to watching. Vered claims that watching had at least two outcomes. First, those who watched were the audience for more active participants who used gestures and were more vocal, and part of playing may include 'being watched'. Second, Vered claims that watching others playing computer games may be a resource in other social arrangements. As an example, she mentions that a quiet child may comment on the game in another social situation, which may serve as a starting point for new friendships or different positions in later gaming occasions. Vered's study is based on participant observations and interviews.

Studies of children's computer activities in educational settings have also dealt with the relation between home and school. Linderoth (2004) observed children, six to eleven years old, playing computer games in school settings as part of educational practices and in the home setting. In his data, Linderoth identified five patterns of interaction related to meaning making, and three of these patterns are described as different types of frameworks in which the children relate to the game. He differentiates between 'the rules of the game', 'the theme of the game' and 'the aesthetics of the game'. Rules of the game was the most commonly used pattern, where meaning and acting were done in relation to rules built into the game. The framework called the theme of the game is utilized to find out what the affordances of the rules are or used as a resource for creating narratives of game events. Frameworks dealing with the aesthetics of the game are related to single comments concerning what can be found as visually compelling, where the visual becomes the rationale for making decisions in the game. The other two patterns of interaction are described as (i) internal dynamics of gaming, where meaning is generated in relation to confusion and uncertainty with respect to how to solve the



task, and (ii) the external dynamics of gaming, where the generated meaning has to do with features that the participants bring to gaming, and features that are brought out of gaming, such as winning or losing.

Johansson's (2000) has studied the children's use of computers in both home and educational settings. She studied Swedish children's use of computers in their everyday life through interviews and observations. Johansson (2000) introduces the reader to different practices in the home and in the school of which computers are a part. Her main focus is on chatting and playing computer games, where she discusses these activities in relation to concepts such as gender, generation, childhood and children's culture. Her primary interest is not in the use of computers in school or in the family, but rather in what children do with the computers and what children and adults do with notions of children and childhood in relation to computer use. She argues that children's use and understanding of technology is closely related to what has been called hegemonic masculinity (cf. Connell, 1995). Johansson (2000) does not provide detailed examples of the daily interactions in the families. My study has a similar interest, following children and technology in different sites in their everyday lives, but it focuses more on the interactional patterns created in computer activities at home as well as at school.

Common to the above studies of children's computer activities in educational settings is that digital technology in term of computers matter when it comes to patterns of communication and thereby to organization of the social situation.

## Research on families

Families and educational institutions both have social structures in terms of rules, regulations, expectations and ideologies, but educational institutions differ from families. In the classroom, any differences between home environments are suppressed and overridden by the normalizing rules, regulations, expectations and ideologies of the grammar of teaching and learning processes (Assarsson & Sipos Zackrisson, 2005). While an egalitarian ideology dominates educational institutions, equal opportunity is not an operational philosophy in all families. Age-graded hierarchies and positions of responsibility often differ within families and among children in the families (Vered, 1998). The institutional setting of the family is of importance with regard to the nature of computer activities in terms of the who, when, what and for how long of the situation.

In contemporary Western settings, young people have computers and internet in their homes, and the home is a key site for young people's use of these technologies (Facer et al., 2003). Still, until recently, the focus has often been on the relationship between school and home (Holloway & Valentine, 2003; Johansson, 2000; Kerawalla & Crook, 2002; Livingstone & Bober, 2005; Livingstone & Bovill, 2001).

Children's computer activities in their homes have been discussed in terms of patterns of use. A reoccurring phenomenon in this discussion has been the question of where digital technology is placed in the home (Bovill & Livingstone, 2001; Facer, Furlong, Furlong, & Sutherland, 2001; Facer et al., 2003; Holloway & Valentine, 2003). These studies argue that the location of technology has an impact on children's use, which is related to parents' ability to 'observe' their child's computer use. In a study of computer use in the homes by Kerawalla and Crook (2002), the different reasons for placing computers in communal or private places were revealed. Some parents argued that the main reason for placing the computer in communal places was to keep an eye on what children were doing on the computer; some argued it was a way to socialize, while others claimed that it was a way to mark the computer as a communal object. There were also several arguments for placing computers in sites that are more private in character. For instance, the design of the computer did not fit into the room, they wanted the computer to be in a place where those who used it could work undisturbed, or vice versa, that the user should not disturb other family members. Facer et al. (2001) start with the assumption that the embodied everyday lives of children may be of importance for the ways in which virtual space is used. Facer et al.'s (2001, 2003) study consist of 1) questionnaires to 855 young people in England and Wales of 2) case studies of 18 young people's use of computers in the home, and 3) group interviews in school with 48 young people. Regarding placement, it is remarkable that in most of the families (16 out of 18), the computers were located in communal places. In the question on which communal spaces were used, the computer was often located in spare or 'dead' spaces, such as landings, under stairs, the 'spare' bedroom and the dining room.

According to Facer et al. (2001), the location of the computer as 'out of the way' but still easily accessible suggests that the technology is frequently used by one person at a time. In their study, parents argue that placement was intended to facilitate shared use as well as surveillance of the children's activities. Facer et al. show that, in everyday life, children have to negotiate for access to the computer as well as for dealing with the guiding principles that parents have drawn, which means that children's computer activities are the objects of surveillance and discipline. Facer et al. (2003) show that a computer in the home is not the same as having access to a computer, because, as mentioned above, access is a matter of negotiation. The placement, as well as negotiations for access, must be understood in relation to how the computer, as a material artefact, is seen in the families. Facer et al. (2003) observed three main ways of seeing the computer in the studied families. First, there was the computer as the 'children's machine', located in spaces in the home usually used by children, where access to the computer also meant access to 'children's space'. Second, computers were seen as 'interlopers', marginal to the family, often located in spaces where they could be monitored or restricted. And third, the computer was seen as the 'heart of the home', a resource that was placed in neutral and accessible spaces. Moreover, they claim that placement of the computers '... reflected and reinforced different family views about how time should be spent within the home' (p,

49). Placement as well as the everyday politics of family life can be seen as ‘the condition of production’ (Facer et al., 2001), or as I will say, the condition of use, pointing out the importance of considering the material as well as social conditions for use.

Holloway and Valentine (2003) have studied children’s geographies with regard to how children employ ICT in their everyday lives. In order to understand children’s use of digital technology, they have concentrated on schools and homes. More specifically, they were interested in how virtual and physical spaces, such as classrooms and living rooms, were used by children. Holloway and Valentine (2003) discussed the digitally literate child in relation to the digital divide, which is the gap between those who have access to and know how to deal with digital technology and those who do not. In other studies, this has been discussed as a phenomenon that occurs between different categories of human beings defined by ethnicity, socio-economic background, age, gender and geography (Buckingham, 2003; Buckingham & Scanlon, 2003). Holloway and Valentine (2003) show how these broad categories lack nuances and claim that rather than focusing on the provision of software and hardware, we have to ‘... recognise the complex ways in which ICT emerge as different tools within different communities of practice’ (p. 41). In short, this means that rather than seeing the digital divide as a general gap between categories, a gloss, we have to investigate what children are doing and in which areas they are digitally competent. Put differently, we have to investigate computer activities to see what is being done and in which areas they have competence in handling ICT. Holloway and Valentine (2003) show how ICT emerges as different tools in schools and in homes, tools that are related to the social conditions for use in schools and homes. In the schools, peer relations have been focused on regarding the institutional use of computers, while in the homes, the focus has been on how technology was part of these families’ everyday life. In Holloway and Valentine’s study, one area in which everyday computer use becomes visible is when they look at how children’s use is restricted in time and space: how long they are allowed to use it and which websites they have been visiting. This makes the child-adult relationship relevant to discuss, which they also do in relation to knowledge and negotiations.

The present study is inspired by Holloway and Valentine’s (2003) research focus on computer activities in different spaces. Yet, their studies focus on the placement of computers in the families, while the present study focuses on how space and place are used and created through social interaction, thereby making the participants meaning of place an empirical question.

## **Research on workplaces**

There is still only a restricted number of studies on children’s computer activities in everyday life (Holloway & Valentine, 2001). In contrast, workplace studies have explored computer activities and communication between workers and their use of technology as part of their everyday lives at work.

Research on how technology is part of our everyday life has taken place in several different disciplines and with different perspectives on how institutions are created and sustained (Engeström & Middleton, 1996). Broadly speaking, since the late 1980s, much of the research has left the individualistic cognitive model in favour of a 'turn to the social' in the field of computing (Koschmann, 1996; Luff, Hindmarsh, & C. Heath, 2000). Part of this turn implies an interest in computer activities *in situ*. It could be claimed that 'too constrained a conception of human-computer interaction appears to overlook the collaborative, social and organisational nature of how conventional technologies are used in everyday settings' (Luff et al., 2000). In other words, they argue that the study of technology has to be accomplished by looking at activities that are socially embedded in everyday life. Not surprisingly, much of the work on socio-technical interaction has been done in technologically dense workplaces, for instance on the bridge of a ship, while navigating is taking place, or in flight simulators (Hutchins, 1995; Hutchins & Klausen, 1996), control rooms of the London underground (C. Heath & Luff, 1996, 2000) or in operation rooms at airports (C. Goodwin, 1996). These are places where technology is an integrated part of ongoing practices, and where people interact with each other as well as with the technology at hand. This has enabled researchers to explore the social and organizational properties of technology in interaction.

Inspired by ethnomethodology and conversation analysis, C. Heath and Luff (2000) focused on how technologies work in co-ordinating the activities for which people are employed. They studied different practices such as 'news agencies', 'line control rooms of the London Underground', 'general medical practices' and 'architect offices'. One line of argument presented is that the computer screen is oriented to and used as a resource in the production of collaborative action. It is utilized in making sense of other people's actions and activities, for instance, how colleagues' use of tools and information on a screen gives rise to ideas about how they are supposed to act. According to C. Heath and Luff (2000), the interplay between colleagues is constitutive of the organization of a task. This could be seen in the line control rooms, at the news agency as well as when reading and writing records in medical practices. Moreover, they argue that 'the very production of an activity may be embedded and inseparable from its real-time co-ordination with the actions of others' (123), which means that participants continually adjust their actions in relation to each other. This makes it problematic to differentiate the individual from the collective, or to put it differently, to separate the individual from his/her social and material surroundings.

As part of the 'turn to the social', the questions of co-ordination and collaboration have become, in different ways, reoccurring topics in studies of workplaces. C. Goodwin (1996) studied operation rooms at airports and claims that '... , the tasks of achieving joint action pose as a practical problem for participants the issue of mutual intelligibility' (p. 375). According to C. Goodwin, participants attend to a range of interactional phenomena such as sentential grammar, sequential organization and participation frameworks, all of which are constituted through the participants' embodied actions.

Moreover, C. Goodwin shows how the participants' perceptions and understandings of a picture on a monitor are shaped by the task they are engaged in and by the structure of language as deployed in human interaction. He points at two interactional phenomena that are of importance in establishing an intersubjective understanding of how to comprehend a picture on a monitor. First, he shows how what he calls the prospective indexical is of importance in this process. This phenomenon often occurs in story prefaces and points to how the listener should understand the upcoming story. For instance, when a person tells another person: 'the most wonderful/terrible thing happened to me today' and the other asks: 'what happened?', the listener has a device for how to understand the story, as positive or negative. Second, 'response cries', which he defines as 'single non-lexical sounds' (p. 393), are used for bringing attention to what is happening on the screen and how to understand it. C. Goodwin (1996) claims that, in this situation, 'response cries' (cf. Goffman, 1981) establish the unproblematic existence of the event in addition to sets of parameters for understanding it. In other words, they create a norm for how to see and understand the activity.

Studies of what has been called 'distributed cognition' (C. Goodwin, 2000; Hutchins, 1995; Rogoff, 2003; Salomon, 1993) have similarities to workplace studies with regard to studying phenomena in their everyday settings, dealing with participant orientations (user perspectives) and how participants co-ordinate their activities. According to studies of distributed cognition, 'cognition' is not a description of the individual and how s/he deals with a task, rather 'cognition' is seen as a social and cultural phenomenon that is distributed between humans and their artefacts (Latour, 1987; Middleton & Edwards, 1990). Of particular interest in studies of distributed cognition has been how shared understandings and definitions are produced in social interaction, where tools are part of this production ('tool-based cognition'). For Instance, Hutchins' (1995) classical study of bridge navigation, in 'Cognition in the Wild', argued that cognition is distributed between different participants as part of heterogeneous networks, involving both humans and technologies. Not only human beings, but also materiality contributes to how humans make sense of each other and their surroundings as well as act in them. Or as Latour (1996) suggests, we are not naked apes but people, usually dressed and located in designed places.

## **The present study in relation to earlier research**

Studies of computer activities in three institutional settings show that computers are seen and used both as artefacts for work and education and as artefacts for entertainment. The fact that the same artefact, the computer, is used in different settings reveals a possible tension between location and activity. This is a tension between what computer activities are expected to be like, for instance, in education, at home and at work, and how they are carried out. Playing computer games during lessons in school or at work is usually not considered as a proper activity in these sites (Casas, 2001;

Kerawalla & Crook, 2002), or such activities may be characterized as 'out of frame' or 'off-task' (Almqvist, 2002; Scrimshaw, 1997; Wyndhamn, 2002). In other words, it could be claimed that these studies deal with moral standards related to what is to be done where and together with whom (Facer et al., 2003).

It is my argument that digital technology, such as computers, is not given with regard to how it is used and how we create meaning in relation to it. This underlines the importance of studying children's computer activities in their everyday lives. In the present thesis, this has been done *in situ* by investigating of how computer activities are carried out in relation to time and space. This means that questions regarding *what* is done, *where*, *when* and together *with whom* are of importance. These questions also indicate that I will not predefine the activities as sub-activities in relation to the institutional setting in which they occurred, which has been common in some of the research conducted in educational settings. Rather, I will study children's computer activities from children's points of view, and not as being 'in-frame' versus 'out-of-frame'.

In studies of children's computer activities at home, research has mainly been carried out through interviews and questionnaires conducted with children and parents (e.g., Facer et al., 2003; Fromme, 2003; Holloway & Valentine, 2003; Livingstone & Bovill, 2001; Sjöberg, 2002). These studies have generated important and valuable knowledge about the distribution and use of technology. Nevertheless, little work has been done on how children's computer activities at homes are carried out. Regarding how activities are carried out, the present thesis is inspired by detailed workplace studies focused on computer and humans in action. These studies have shown how participants use digital technology, as part of their everyday lives at work. How computers are used in children's everyday lives in homes and schools, when not related to school tasks, is something we know relatively little about. The present thesis can be seen as a contribution to this kind of research.

## Activity frames, play and identity work

In everyday language as well as in childhood research, children's activities have often been described in terms of playing (James, Jenks, & Prout, 1998). The relation between children and playing can be seen as a way of describing what children are doing, and what it is meant by childhood. What is meant by play is often taken for granted, and it is seen as something positive in relation to children's development (Erikson, 1985 [1950]; Piaget, 1965 [1932]; Vygotsky, 2002 [1933]) and standard of living (Unicef, 1989). At the same time as playing is seen as a good and preferred activity, it is treated as something less serious and positioned in opposition to work and production (Caillois, 2001 [1958]; Goffman, 1961; James et al., 1998). The notion of playing is not solely restricted to children's activities, but more importantly, it has been seen as part of what makes us social beings; in short a human being is seen as *homo ludens* (Huizinga, 1998 [1949]).

The idea that playing is a preferred activity, and that it usually takes place in leisure time, can be seen as part of the rhetoric of play as progress (Sutton-Smith, 1997). Despite this rhetoric, children's play is restricted in time and space. For instance, children are supposed to be at certain places at certain times doing certain kinds of activities. Children are expected to play in playgrounds during the daytime, not at night when they are expected to be at home sleeping. In addition to these regulations concerning time and space, the rhetoric of play is also about engaging in expected activities at specific locations (McDowell, 1999). When children are performing activities different from what is expected of them in these particular places, they are often seen as being in the 'wrong' place or 'out of place', which makes them the objects of disciplinary correction. The very fact that computer activities are located in different virtual spaces such as computer game spaces and online chat spaces, as well as in places such as classrooms, living rooms, kitchens, working rooms, halls and bedrooms, makes it important to discuss how space/place influences activities and vice versa.

In the present thesis, my interest has been in investigating how children participate in computer activities, involving playing and gaming, and what this may tell us about the social organization of children's everyday life. In this part of the text, I will start by discussing the notion of computer game activities before I discuss some of my main analytical concepts: activity frame (Goffman, 1974; 1981), space and place.

### Gaming and playing around the screen

Gaming and playing are often described as different phenomena with relatively clear distinctions within various theoretical orientations (e.g., Caillois, 2001; Huizinga, 1998; Vygotsky, 2002). One

clear-cut divide between gaming and playing can be seen in relation to how rules are handled, either as taken for granted or as objects of negotiations.

From my point of view, one clear-cut division between playing and gaming based on differences in how rules are practiced seems problematic for two reasons. First, in the research literature, we see how this distinction is blurred. For instance, Vygotsky (2002) sees gaming as activities that are organized and governed by explicit rules, while playing operates with covert rules, ‘... rules stemming from the imaginary situation’ (p. 6). But the activity of play is seen as something that transitions from an internal orientation (imagination) to an external one, which is part of social activities. This means that gaming and playing are not seen as separate activities, rather ‘game is a form of play’ (Vygotsky 2002, p. 5). Second, this clear-cut division assumes that all participants deal with rules in similar ways within gaming versus playing. How participants deal with rules has to be made an empirical question. This means that if the participants orient to the activity as gaming, then it is gaming.

In sum, I suggest that rather than seeing playing and gaming as mutually exclusive activities, they can be seen as intertwined activities that may include elements of the other. In computer activities, such as the playing of computer games, this may be seen when children test the borders of the game, or when games are not played by the rules. In the present thesis, I have also focused on ‘MSN chatting’ (henceforth also ‘chatting’). Play and playfulness have also been part of discussions regarding online communication and what is seen as possibilities to play with identities (Reid, 1991). In online communities, there may be activities that usually have been seen as play, but that may turn into a competition. For instance, at the Swedish website ‘*Snyggast*’ (‘most beautiful’), the participants publish pictures of themselves, while other participants are invited to give credits to the presentations (0-10 points) in relation to how much they like it. The pictures are then ranked with respect to the point average, and the top ten are ranked and displayed on the main page. In this context, the point average, that is, the top-ten list can both be seen in terms of a game artefact, where the participants’ results are displayed, and in terms of the participants’ playing with identities.

## Computer game activities

What has been said about gaming in the research literature? It is claimed that gaming is temporally as well as spatially delimited from its surroundings (Huizinga, 1998; Goffman, 1961). This can further be related to the existence of ‘exclusive’ rules that operate within these game frames, thus guiding the gaming. Among play and game researchers, this is what frames playing and gaming as something separate from other activities (Caillois, 2001; Rodriguez, 2006; Salen & Zimmerman, 2004). The relation between gaming and other activities or the boundaries of the game have been discussed by several researchers interested in gaming and playing (Caillois, 2001; Goffman, 1961; Huizinga, 1998;



Salen & Zimmerman, 2004). Salen and Zimmerman (2004), who focus on computer games, claim that social interaction in gaming can be divided into two levels.

The first level of interaction is what occurs within a magic circle (Huizinga, 1998), which indicates the interaction that is related to the game rules and what is happening in the game. As Huizinga explained, 'inside the circle of the game the laws and customs of ordinary life no longer count. We are different and do things differently' (Huizinga, 1998, p. 12) when we are gaming. Playing games is mainly governed by the rules of the game, it could be argued that inside the magic circle, certain positions are created and offered by the structure of the game. Juul (2005) claims that regarding computer games, 'the magic circle is quite well defined since a video game only takes place on the screen and using the input devices (mouse, keyboard, controllers), rather than the rest of the world'. Playing in virtual spaces presupposes computer technology that makes it possible to enter virtual activities. Thereby, Juul indicates that the frames of computer games may be clearer than in other types of games due to some of the material aspects of computer gaming. According to Juul (2005), materiality determines the activity, but this does not take into account what the players themselves see as gaming, or as part of the game. In contrast, I would argue that the question of where gaming takes place and where borders between the computer game and its surroundings are to be drawn has to be an empirical one. A more fruitful way to understand children's computer game activities is to follow Rodriguez (2006), who suggests that 'the location of the magic circle is no longer taken for granted; it becomes the very subject of the game' (p. 11). In other words, what is part of gaming has to be studied from the participants' point of view.

The second level of social interaction is externally derived, from '...social roles brought into the game from outside the magic circle' (Salen & Zimmerman 2004 p. 462). This could be pre-existing relations that influence choices and strategies during the gaming. It could be as simple as preferences for a particular hockey team or not wanting certain persons to be members of one's clan in 'Counter Strike' because of conflicts at school. This second level of interaction opens the magic circle to other arenas in the participants' lives, which indicates a tension between gaming and other everyday activities.

A similar way of thinking can be seen in what Goffman (1961) calls a gaming 'encounter'<sup>2</sup>. An encounter is when 'a locally realized world of roles and events cuts the participants off from many externally based matters that might have been given relevance, but allows a few of these external matters to enter the interaction world as an official part of it' (Goffman, 1961 p. 31). With regard to gaming encounters, this raises the question of the boundaries between gaming and other activities in which the participants are a part. That is, what is allowed to enter and matter in the game situation and

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<sup>2</sup> Goffman uses game just as an example in his discussion of encounters, and argues that the same principle is at work in other activities.

still be considered as gaming? According to Goffman, these boundaries are sustained through what he calls a 'membrane', which transforms or modifies external properties that may threaten the activity. This membrane is not absolute, rather it indicates that not everything is possible inside the frame of gaming and that if too many external properties enter the game, it may break down. In order to understand gaming and how this activity is related to its surroundings, it may be helpful to differentiate between what the game contributes to the situation and what may be related to other activities. Thus, we should not only see when activities break down, but also how different activities are interrelated.

What I see as a problem, both regarding the magic circle and gaming encounters, is that the borders between the activities are drawn too hard. In Goffman's (1974, 1981) later works, he developed his ideas from 'Encounters' (1961) into what he called activity frames and participation frameworks. Through these notions, Goffman focuses more on the social interaction, which entails that the situation is seen as more flexible and open to changes. The main difference between the theorizing of the magic circle (Caillois, 2001; Juul, 2005; Rodriguez, 2006; Salen & Zimmerman, 2004) and Goffman's notion of activity frames is that activity frames are interactionally accomplished. Activity frames guide the activity at hand at the same time as they are the outcome of that activity. Activity frames are seen as dynamic and changing, depending on the situation at hand.

Gaming is one social activity along with others, and the distinction inside/outside a magic circle is not given just because the participants are seated in front of a screen. As we will see later on, the discussion on 'inside' versus 'outside' the game has similarities to discussions of 'real' versus 'virtual' in relation to online communities (Pargman, 2000; Reid, 1991; Sundén, 2002; Turkle, 1996).

## Online chat activities

Chatting entails interacting with other people through language. It is a social activity, mediated by computer technology, but it generally lacks other communicative channels, such as visual and audio channels<sup>3</sup>, which are important in face-to-face interaction. In short, chatting involves interacting with people in virtual landscapes.

In studies of chatting, the focus has been on language use (Benwell & Stokoe, 2006; Crystal, 2001; Lou, 2005a) as well as identity work (Bechar-Israeli, 1995; Hernwall, 2001; Lou, 2005b; Moianian, 2005; Tingstad, 2003). Questions concerning how online chatting is related to social interaction offline, and how online and offline chatting interact with each other are of interest in efforts to explain the nature of children's computer activities in everyday life.

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<sup>3</sup> Today, visual as well as audio channels can be used in online chat.

### **Online chatting and materiality**

Chatting, as an online activity, has actualized the question of whether or not what happens online is for 'real'. This has created a popular opposition between 'online' and 'offline', or 'virtual' and 'real'. Semantically, virtual is opposed to real (Benwell & Stokoe, 2006). In online activities where participants are able to remain anonymous, discussions along the real/virtual distinction have dealt with the possibility of meeting someone online who pretends to be someone else. For instance, the person you talk to is not a man in his late thirties, but two 12-year-old boys or maybe a woman of 65 (cf. Turkle, 1996). Cyber-violence, cyber-sex and cyber-rape are all examples of what has been discussed along these lines (Bell & Kennedy, 2000; Turkle, 1996). When online activities are treated as autonomous, free from constraints in our material world, then the internet can be seen as a non-restricted place of possibilities, where the connection between actors and their expressions is opaque (Danet, 1998). Bell and Kennedy (2000, p. 3) claim that 'when we are in cyberspace we can be who we want to be; we (re)present our selves as we wish to (notwithstanding the constraint of the medium, which can and do serve to limit this performance)'. This way of not relating to materiality makes gender, age, ethnicity and class irrelevant. The only thing that matters is what happens in the interaction online. In addition, the quote suggests that we want to become someone else and that this is not possible in our offline as opposed to online lives. Concepts such as simulation, disembodiment, disembeddedness and networks have been used to describe people's activities on the web (Bolter & Grusin, 1999; Castells, 1996; Figueroa-Sarriera, 1999). The consequence of this perspective on online activities is that there are other norms and rules at work in virtual communities, basically because the activities are not for 'real'; they are not real business, but playing (Reid, 1991).

This view of activities such as online chatting as sharply demarcated from their surroundings, disembodied and working according to their own logic and morality has been criticized (D. Miller & Slater, 2000; Slater, 2002; Sundén, 2002; Turkle, 1996). Livingstone (2003) even claims that, today, there is a consensus that viewing interaction in terms of the dichotomization 'virtual contra real' or 'online contra offline' is inappropriate. This can be seen in D. Miller and Slater's (2000) research, where they argue that the content people produce online is in accordance with social and cultural norms already established offline. Internet activities can be seen as cultural products produced by particular people to solve local problems such as selling and buying things, bank affairs, writing to relatives and friends, and publishing and distributing information. Several studies focus more specifically on materiality in terms of the embodied chatter, claiming that the materiality of flesh and blood is of importance for the social interaction even when people are online (Lupton, 2000; Stone, 2000; Sundén, 2002). In the present work, I see chatting as an activity situated in material environments. Chatting is for real, but sometimes it happens in a place where the chatter cannot be certain about all aspects of the other chatter, but this is also the case when we meet new people in other places.

### **Online chatting and identity work**

In the discussion on online chatting, identity is a frequently occurring topic. Bell and Kennedy's (2000) description of online identities can be seen as an example of the idea that identities in virtual space should be more fluid, multiple, changed and performed than they are elsewhere. They write that 'we can be multiple, a different person (or even not a person!) each time we enter cyberspace, playing with our identities, taking ourselves apart and rebuilding ourselves in endless new configurations' (p. 3). Benwell and Stokoe (2006) claim that this view is similar to constructivist and discursive perspectives on identity work that share the idea of identities as multiple and as something that we perform and play with. For instance, Gergen (2000 [1991]) argues that 'the firm sense of self, close relationships, and community were being replaced by the multiplicitous, the contingent, and the partial' (p. xiv). By adding 'in online communities', this could easily have fitted into the discussion on online identities. It could be claimed that the 'radical' view of identity performances in online environments does not differ from contemporary theories of identity performances in other environments.

Tingstad (2003), who has studied young people's chatting, shows that questions concerning sex, age and localization are common in the introductory phase of chatting (cf. Crystal, 2001). Moreover, she shows how these categories, together with ethnicity and interests, are of importance for the nickname chosen. This tells us that materiality matters, and that it is not something participants leave behind when they enter cyberspace. According to this way of seeing things, the internet becomes an artefact that is created and configured in relation to how it is used in local practices (Almqvist, 2005; Enochsson, 2001; Hernwall, 2001; D. Miller & Slater, 2000). In several studies of identities in online chatting, the focus has been on nicknames as identity performance (Bechar-Israeli, 1995; Crystal, 2001; Lou, 2005b; Tingstad, 2003). Nicknames '... say something about who they [the participants] are, and act as an invitation to others to talk to them' (Crystal, 2001 p. 160). This means that nicknames work in two ways. First, they tell the other participants about who you are/want to be, and second, they constitute a way of displaying interests, sex, location, age and ethnicity with the purpose of getting others to talk to you (cf. Tingstad, 2003). The theoretical idea of playing with identities in online environments is present, but when we look at studies of nicknames, it could be claimed that participants create and use nicknames that are related to their activities in other arenas, and that they remain relatively stable (Bechar-Israeli, 1996; Crystal, 2001; Tingstad, 2003; Lou, 2005). The question is not whether they are connected to other arenas, but how they are connected.

Questions of identities have also been discussed along the lines of the metaphor of the 'cyborg'. Haraway (1987) has used the cyborg metaphor to challenge traditional binaries such as human – technology, children – adults, man – woman and nature – culture. With respect to identity work in online environments, the nickname has been seen as an extension of the self. With respect to chatting, the software and the computer could be seen as a prolongation of the participants that makes certain

actions possible. In relation to the traditional distinction human/machine, it becomes difficult to decide where the other starts. Moreover, it becomes problematic to localize the agent (Clark, 2003; Haraway, 1987; Latour, 1999). The way I see it, the cyborg metaphor enables us to deal with online activities as a part of children's everyday lives.

Rather than seeing identity in online activities as detached from the social surroundings, I see them as '... identity work performed and enacted online' (Benwell & Stokoe 2006, p. 278), and in this way, online is viewed as one of several spaces in which identity work takes place. I have chosen to use the notion of 'identity work' because it emphasizes the productive side of online identities. Online identity can be seen as a display made and communicated by the participants. This means that identity work can be observed in activities such as language use, naming oneself and others, the use of nicknames as well as through other symbols and signs that are used as resources in online interaction. Moreover, it points to online activities as situated in line with those taking place in, for instance, schools, families and stock markets.

## Framing activities

During the day, children participate in gaming and online chatting and they listen to music. Often, all this is happening at the same time. But, how are these activities worked out and how can they be understood in relation to each other? To answer these questions, we have to explore the activities *in situ* to see how the participants deal with the situation at hand, and go on from there to try to understand how the situation works. This way of thinking was developed by Goffman (1974; 1981), who focuses on how activities differ from each other. He claims that, first of all, participants have to identify the activity as, for instance, playing, thus, they must identify the *activity frame*. This means that playing encompasses those activities the participants see (frame) as playing. When something is framed as playing, there is an agreement among the participants about what playing is (as opposed to not playing) (Goffman, 1974). By jointly deciding what practice is taking place at a given moment, they also agree upon the 'rules' that guide the practice at hand. The activity frame creates expectations of what is going to happen, of how the activity is supposed to be performed, and how it works as 'guidelines' to understand what is happening (Tannen & Wallat, 1999 [1987]). These are the rules that frame and guide the activity, which is performed in the ongoing business of social interaction. Because activity frames involve social interaction and are also the outcome of social interaction, they are not to be seen as static or given once and for all. Rather, they are blurred and even changing during the situation (Goffman, 1974). Goffman's notions of activity frames offer theoretical and analytical concepts for dealing with activities from the participant's point of view.

## Identity work and positionings

Framing activities create identities in relation to the activity at hand and vice versa. This means that participating in activities such as playing, gaming and online chatting involves questions of identities or positions. Framing an activity means deciding what is going on, drawing borders around the activity as well as deciding the status of the participants. For example, playing and gaming have often been described as joyful, fun and not for real (Goffman, 1961; Huizinga, 1998). Despite such statements, it is well known that not everyone is allowed to take part in gaming and playing. This can be seen in recipient design phenomena. The speaker is said to 'design' the speech in relation to whom they see as receivers. 'More precisely, *speakers design their speech according to their on-going evaluation of their recipient as a member of a particular group or class*' (Duranti, 1997 p. 299). This means that through talk, participants may be included or excluded. Through analyses of recipient design, the focus is placed on who is addressed and how this is done both verbally and non-verbally. For instance, during gaming and playing, somebody is positioned as the primary recipient of the action. Talk, gestures and gazes are often used as ways to position co-participants as peripheral parties or to include as well as exclude others from the ongoing activity (M. H. Goodwin, 1990). The same can be said with regard to what is talked about, the content and how the talk is done; talking about advanced computer games to a newbie may exclude him/her from the situation.

Goffman's (1974) notion of participation frameworks differentiates between two main positions, the 'ratified participant', who is part of the communicative frame, and the 'unratified participant', who is not part of the communicative frame. To become a ratified participant, one needs to know how to act appropriately. Among the ratified participants, there are situations in which it is possible to talk about primary recipients, such as when someone in an audience is addressed<sup>4</sup>. An unrated participant who has some kind of access to the encounter is seen as a 'bystander' (Goffman 1981). As a bystander, one may be an eavesdropper or an overhearer. Different positions, those of ratified and unrated participant, in the social situation enable what Goffman calls subordinate communication, which is talk done in relation to what may be seen as the main communication. Goffman (1981) differentiates between three types of subordinated communication. These are (i) byplay, communication among a subset of ratified participants, (ii) crossplay, communication between ratified and unrated participants, and (iii) sideplay, communication among bystanders.

As social activities, chatting and gaming offer participants several possible positions, or identities. Identity is not seen as something fixed, rather it can be interpreted as positioning in relation to different activities and actors, in short as a dialogical phenomenon (Aronsson, 1998; Davies & Harré, 1990; Goffman, 1981). As social activities, identities are worked upon and they are productive.

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<sup>4</sup> The example is from Duranti (1997).

Whether we talk about children who are doing online chatting or adults who are playing computer games, they are all embedded in and part of that particular activity. This does not mean that everything is different in every new situation one enters, first of all because there are ‘family resemblances’ (Wittgenstein, 1997) between different activities. For instance, gaming and chatting have similarities with regard to use of language as well as social roles and preferences that are brought into these activities (Fairclough, 1992; Goffman, 1961; Kristeva & Roudiez, 1980). Second, identities and positions are related to habits and everyday practices, which create regularities and likeness (Berger & Luckmann, 1967; Butler, 1999 [1990]). In short, despite the theoretical possibility that everything could have been different, there still seem to be regularities in the way social life is lived.

### Positions and interpretative repertoires

The question of identities in terms of positions can be seen as more than a question of participants’ creation of and relation to a particular activity. Within Foucauldian approaches, ‘subject position’ is used as an analytical concept to describe how subjects relate to other participants, activities and discourses (Bamberg, 1997; Davies & Harré, 1990; Edley & Wetherell, 1997). Entering a subject position also means gaining access to conceptual repertoires, ways of seeing and understanding the activities, where the participants are offered resources to deal with what happens (Lagenhove & Harré, 1999). For instance, entering the subject position of an expert on the computer game ‘Ratchet and Clank II’ means that others are seen as less competent in the game. But, one is not fixed to a subject position, ‘at least a possibility if notional choice is inevitably involved because there are many and contradictory discursive practices that each person could engage in’ (Davies & Harré, 1990 p. 2). In other words, as a member of a family, one may be a son and little brother, but one also inhabits other positions such as the football guy in seventh grade or, if he is an adult, the computer guy at the office. Moreover, being a little brother may require obeying big sister’s commands, regardless of one’s expertise in gaming. According to this perspective, it is important to identify what kind of activity is taking place and the rules that guide the participant in understanding and acting. In short, it becomes important to identify the activity frames.

In social activities, displaying competence is of importance not only when framing an activity, but also with regard to positions that are made available and entered during the activity (Kvale & Nielsen, 1999; Lave & Wenger, 1991; Wenger, 1998). The positions entered in the social practice partly depend on the participant’s displayed competence. Lave and Wenger (1991) show how an apprentice starts with basic tasks and moves on to more complex tasks, which change the participant’s positions in relation to the activity at hand as well as in relation to other participants. They describe this as a movement from apprentice to master, from periphery to centre of the practice. In terms of computer activities, for instance, this would entail a movement from a non-expert position on gaming to game expert positions. Displayed competence is of importance to being able to enter a position as well as to

how one is positioned by one's surroundings. The same line of reasoning can be seen in research on children and playing, where those who do not know the activity (as well as the youngest ones) are positioned in less attractive positions (Björk-Willén, 2007; Corsaro, 1979; Cromdal, 2001; Schwartzman, 1978).

In the present thesis, I primarily use Goffman's (1974, 1981) lines of thought with regard to understanding how participants create and relate to the situations at hand. I have also been inspired by critical discursive psychology and the notion of 'interpretative repertoires'. As I see it, the notion of interpretative repertoires moves beyond the very situation at hand in that it emphasizes that individual ways of acting can be seen in light of different discursive constructions, for instance, what it means to be a father, son, or a student. In some sense, it is about what the participants bring to and make relevant in the activity.

## Space, place and children

Computer game activities and online chatting activities are localized in time and space. The activities and where they are localized are interrelated. So far, I have discussed two types of activities that are re-occurring in my data, computer game activities and online chatting activities. In the present study of computer activities, the question of materiality has been discussed. This can be seen in light of the critique that studies of social interaction have received for how they have dealt with material aspects of the situation (Latour, 1996). According to Latour (1996), objects are not merely the screens of our social life they actually do something. If materiality and objects make a difference, then, in some way, they also have agency. Moreover, it could be argued that, in the situation, there are 'only actors – some human, some nonhuman, some skilled – that exchange their properties' (Latour, 1995 p. 266). Latour uses the concept of *actant* to eliminate the difference between humans and non-human actors. Thereby, he is modifying what is considered to be an activity as well as what is meant by agency. In the present thesis, the concept is mainly used to draw attention to how materiality works in social interaction. By using the concept actant, I am focusing on the materiality that participants orient to. This does not mean that the chair does not matter in, for instance, gaming situations. Rather, it means that I primarily consider material aspects of the situation that the participants active orient to.

Materiality is part of place. Prior research has shown how the localization of computers has implications for children's use of computers (Facer et al., 2003; Holloway & Valentine, 2003; Livingstone & Bovill, 2001). The construction of children and childhoods is closely related to time and space (Gulløv & Olwig, 2003; Halldén, 2007; Holloway & Valentine, 2000; James et al., 1998). Spaces are socially created, as a result of the activities that take place (Giddens, 1984; Lefebvre, 1991). Space is a social construction created through the activities that are located in a particular space, but it also has consequences for the social activities. For instance, in the discussion on space and gender, it has been claimed that males and females are related to places through the use of them,



which also mark them while creating gender (Gagen, 2000; Halldén, 2001; McDowell, 1999). Gagen (2000) shows how the spatial organization of playgrounds in Cambridge Massachusetts at the beginning of 1900 was designed to create proper American heterosexual males and females, while McDowell (1999) argues that gender identities are made possible in different places and that different places are gender marked.

In the study of children in different places, particular attention has been paid to three sites, public places, like streets and playgrounds, educational institutions and homes. It could be argued that the discussion on children and where they spend their time has focused either on children in designated places such as nurseries and schools, or children who appear in inappropriate spaces (Jenks, 2005). The tension between appropriate and inappropriate spaces and places involves a politics of time and space, dealing with regulations for not only what children can do, but also for 'when' (Christensen, James, & Jenks, 2000), 'where' (Jenks, 2005) and 'together with whom'. Massey (1998) argues that 'control of spatiality is part of the process of defining the social category of 'youth' itself' (p. 127), thereby indicating that children and youth are restricted with respect to where they are 'allowed' to be presented. This is part of reoccurring patterns in children's everyday lives, namely those dealing with regulations and expectations for where to be, when and how.

The discussion of children's presence in time and space, in terms of appropriate or inappropriate space, has been a reoccurring topic in the debate on children, computer games and the internet (Facer et al., 2003; Holloway & Valentine, 2003; Walkerdine, 1999). Those who have been sceptical to children and their use of new technology have often argued that virtual space (cyberspace<sup>5</sup>) is an improper space for children. Some of the research dealing with learning and education sees virtual spaces as arenas for both development and transgression (Enochsson, 2001; Gee, 2003; Goodison, 2002), and as arenas that children need to be in if they are to learn how to deal with the future demands of society (McNicol, Nankivell, & Ghelani, 2002; Tapscott, 1998). In the present text, I will use the notion of 'virtual' to refer to activities localized in online chat channels and computer games. This also means that the virtual is one of several spaces in which computer activities may be located.

## Theoretical stances in the study of activities

To sum up, in order to investigate children's computer activities, I have chosen to focus on how children participate in computer activities by using Goffman's (1974; 1981) notions of activity frames and participation frameworks, thereby underlining the relation between participants and the activity at

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<sup>5</sup> Cyberspace can be explained as '... a cultural concept, depicting a structured and meaningful symbolic universe – a sociocultural space for communication and symbolization, interaction and interpretation' (Fornäs et al., 2002 p. 5).

'Cyberspace' as a concept has primary been used to describe online practices. In order to include computer game spaces, I have chosen to use the notion 'virtual' space.

hand. This actualizes how the participants enter positions and become positioned, which is part of the social organization of children's everyday life. Goffman's theoretical framework does not deal with the questions of digital technologies. Inspired by Latour (1995; 1999), I will consider how participants orient to digital technology in computer activities. Thereby, I do not only argue that materiality matters, but also about how materiality may matter in action.

Common to many studies on children's everyday uses of space (Facer et al., 2003; Holloway & Valentine, 2003; Livingstone & Bovill, 2001) is that they do not focus in detail on *how* space and place are used and thereby also created by children. These studies are based on questionnaires or interviews and do not document the computer activities. The present thesis focuses on social interaction in different spaces, in online chat as well as in the classroom. In relation to children's activities, we could ask what happens where, when and together with whom. For instance, this means that what at first glance seemed like gaming in the living room may be about who decides about the game console. By combing a focus on local organization of talk with an interest in social and material resources that the participants draw upon, I will explore how positions and identities in computer activities have consequences for how these activities are organize and vice versa.

# Methodology and design

## A multi-site fieldwork

Children's computer activities in their everyday lives have to be studied in places where they usually spend time. In the present study, this has been done in a school setting and in eight family settings. The idea of studying phenomena across different locations has been called *multi-site*, or multilocal ethnography (Hannerz, 2001, 2003; Marcus, 1995). The current thesis deals with a phenomenon that is significantly translocal. Children's computer activities are not confined within a single place or restricted to one arena, rather they are located in different places, such as classrooms and living rooms, and virtual spaces, such as computer game spaces and online chatting. The research process has been a matter of following computer activities in different sites (cf. Marcus, 1995). The site is of importance not only with regard to what is studied, but also with regard to *how* this is done. How this has been done will be described below, starting with the fieldwork in a school setting and then moving on to the home settings.

Chronologically, the fieldwork began in the school setting. At the school, many of the computer activities took place during breaks. One of the activities that reoccurred every day was the children's 'conversations about' computer activities that had taken place in their homes during their time off from school. In these discussions, computer games constituted the single most frequently occurring topic, at the same time as gaming hardly ever occurred at school. This can partly be explained by the technological infrastructure in the school (slow computers in the classroom as well as restricted access to computers in the library and the computer room) and the school policy on computer use. The home obviously seemed to be an important arena for children's computer activities. The talk about computer games combined with the lack of the activity of gaming and online chatting at school made me eager to obtain data on computer activities in home settings. I therefore took the opportunity to engage in a large-scale project on family life, where I had the opportunity to record computer activities in home settings. Ultimately, the second setting became most important in the present thesis, in that three out of four studies draw on data from the home settings. Some of the school data have been used elsewhere (Aarsand, 2007a, 2007b), and more of that work will be analysed later on.

The fieldwork in both settings involved multiple techniques for collecting information and took place during a period of two years (see Table 1).

**Table 1: The fieldwork**

School	Families
Video recording (30 hours)	Video recordings (300 hours)
Field notes	Field notes
Interviews	Interviews
	Questionnaires
	Tracking
	Photographing
16 children	22 children

During my fieldwork, the *computer activities* came to be gaming, talk about gaming, online chatting and talk about chatting. In the school setting, the children regularly engaged in teacher-initiated computer activities, and these constitute a substantial part of the 30 hours of school recordings. Child-initiated computer activities involving actual use of the computer were common in the school, but usually occurred during short intervals and as ‘secret’ and hidden activities. The total amount of video recordings in the family homes is the result of recordings made by two cameras. Obviously, computer activities are only a marginal part of everyday family life. Yet these activities are common events in the families.

## The school setting

There were several reasons for starting the fieldwork in the school. First of all, the school is a place where children meet and socialize with other children. Second, it is a place where children have access to computers and the internet. Third, it is the institution outside the family where children spend most time, and finally, it is relatively easy to gain entry to. Before choosing which school and class to study, I did a pilot study in two schools in different age groups. The schools were known to have a positive attitude towards computer use in education, and they were recommended to me by the ITiS (‘IT in School’, a large national project aimed at improving teachers’ competence for information and communication technology) coordinator in the municipality. I followed two school classes one week each, ninth graders (15 years) in school A and seventh graders (13 years) in school B.

The schools were located in a suburb of a Swedish city with a population larger than 100,000 inhabitants. In my fieldwork during the following school year (2002-2003), I chose school B because it contained students with a range of ethnic and social backgrounds. At that time, I thought that this could be of importance in the use of, for instance, the internet. I also chose to follow seventh graders

from day one of the school year, because as seventh graders they arrived at a new school and were grouped in new classes. Thus, the teachers, the buildings, myself and the composition of students combined to form a new situation for the students.

The students I followed were from a seventh grade class consisting of 18 students in the age 13-14 years during the school year 2002/2003. Informed consent was obtained from all students and their parents as well as from the head teacher of the school and the teachers who participated in the study. One girl, who was part of the special needs education programme at the school, did not participate in the study because her parents felt she was already subject to enough ordinary investigations owing to her diagnosis. One boy never returned a signed agreement and is not part of this study. During my fieldwork, I realized that this boy came and went according to his own wishes.

Eight of the students observed are girls and the rest are boys. Eight of the students come from the countryside, whereas the others live in a suburb close to the school. First, this way of ‘grouping’ the students follows their own practice of categorizing each other, where the students from the countryside were called ‘countrysiders’ (lantisar), whereas those from the suburb were referred to as being ‘from the city’. Second, where the children lived mattered with regard to what kind of internet access they had in their homes. Living in the countryside meant that they did not have access to a high speed Internet connection, while this was not considered a problem in the city. Moreover, the dimension of gender became visible during breaks, when the girls stayed with the girls, and the boys with the boys (for similar patterns, cf. M. H. Goodwin, 1990; Thorne, 1993).

**Table 2: Participants<sup>6</sup>**

Girls	Boys
Diana	Joel
Camilla	Jon
Maria	Mathias
Helena	Lukas
Linda	Daniel
Sabina	Johannes
Mathilda	Malte
Fanny	Anders

All of the students were 13 years old, except for Mathias who was 14 years old, at the start of the fieldwork. Staff members were, of course, part of the school as were students from other classes, but because the focus has been on the children’s computer activities, other parties are not included in the

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<sup>6</sup> The names of the participants have been changed.

table. Staff members and other students appear in the present texts if they were made relevant by the children (Duranti & C. Goodwin, 1992; Edwards, 1997; Potter, 1996).

All the students appeared in computer activities several times in my data. In the school setting, I have focused on online chat activities and computer game activities because these were self-initiated and occurred on a regular basis. The school may be seen as a space designed for children's formal learning processes (cf. Jenks, 2005), but the school also consists of several places where the official school agenda is ignored. In the present study, this could be in places such as the library, classrooms, and the computer room when teachers were out of sight. Online chatting, a forbidden activity at the school, took place during lectures when the teacher was attending to other students or was out of the classroom (computer room), but also in the library during the breaks. Gaming mainly took place in the classroom during breaks, and sometimes in the computer room. Gaming and chatting could also be seen as activities that are localized in online spaces 'outside' the designed learning space. In short, the school by no means involves just one type of setting, and when it came to computer activities, these took place in several spaces and in different social constellations.

## Video recordings and interviews

After a few weeks, when I got to know the students better and vice versa, I brought in a video camera to tape activities in front of the computer. I recorded computer activities in the classroom, group room as well as in the computer room. This was done during lectures as well as during breaks. Activities that took place in corridors and 'public' rooms, such as the library, have mainly been documented through field notes. The recorded material consists of more than 30 hours of film, which cover approximately 60 filmed sessions from different lessons and breaks during the school year. I wrote field notes during my whole stay in the field. These notes have been used to get an overview of who did what kind of activities in school, which yielded important information before the interviews, but even more importantly, my field notes helped me place the video recordings in the context of what happened during the day and the week.

Most of the children were interviewed twice in addition to informal conversations we had on a daily basis. The first round of interviews took place early in the school year, in September/October, and these were conducted in groups of two or three students, while the last round took place during April/May and consisted of thirteen individual interviews and one group interview with two girls. The length of the interviews varied from 35 to 65 minutes. The first round of interviews was conducted to get into the field, and to get to know the participants through their telling about their computer activities. The second round of interviews was conducted to obtain knowledge that could help me in interpreting my observations.

## The home setting

It was not possible for me to follow the school children into their homes. Moreover, I did not have entry to the school children's homes; one exception was when I visited Jon's home. As a co-researcher in an international study of family life in Italy, USA and Sweden, 'Everyday Lives of Working Families'<sup>7</sup> (ELWF), it became possible for me to gain access to computer activities in family homes.

Studying computer activities in family homes is slightly different from studying them in schools. The main difference may be that education is a practice involving people engaged in observation in one way or another. There are staff members of different kinds such as assistants and teachers related to special needs education, nursing staff, students from teacher education, parents, visitors and researchers. The homes that were documented during 2003/2004 were localized in the same Swedish city as the school. The main study (ELWF) has been designed to study how middle-class families manage to coordinate the diverging demands of work, school and leisure life. The main advantage of entering children's computer activities in homes through the ELWF project has been that instead of focusing solely on the children's computer activity, as in the example with Jon, it has been possible to study how these activities were parts of the social landscape of families. Investigating children in their home environment, in contrast to doing so at school, makes visible other social constellations, other norms and rules that children have to deal with in relation to their computer activities.

In the ELWF project, multiple techniques for gathering information have been used: video recordings, interviews, questionnaires and photos of the rooms in the houses. In addition, the family members were systematically tracked while at home at 10 minutes intervals to note the use of place, objects and activities. The research team consisted of three persons who conducted interviews, made video recordings, did the tracking and took photos of the houses. I made the video recordings in all of the families as well as conducted interviews with the children and adults. In the present thesis, I have mainly used the recorded material, but also the interviews. How video recordings and interviews were carried out will be presented in more detail below.

## The families

In line with the main project (ELWF), there have been two main criteria for selecting families: i) two adults working full time and ii) at least two children, one of them 8-10 years old (the target child). These criteria resulted in data on families with a minimum of four members. All families owned their

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<sup>7</sup> The Swedish project is coordinated with the UCLA Centre on Everyday Lives of Families (CELFF) and the Italian Centre on Everyday Lives of Families (ICELF). The research project has been funded by the Alfred P. Sloan foundation. Karin Aronsson leads the Swedish project, Elinor Ochs the American part and Clotilde Pontecorvo the Italian part of the project.

own house (or in one case a large flat) and are seen as ‘middle-class’ families in line with the relatively broad definition of the overall large-scale project. All of the families turned out to have at least one computer in the house. The families were recruited through information given by the research team at parental meetings in school, and those who found it interesting contacted the research team and are thus ‘self-elected’ for the study. Each family received the symbolic sum of 3,000 Swedish crowns as compensation for their participation. A few families were turned down because of the age of their children (no children in the target age) and in one case because the family consisted of only one adult. In all, eight families, including 22 children, have been studied (Table 3).

**Table 3: Participants in the home setting**

Family	Name	Age
1	Johan	12
	Anna	10
	Linus	6
2	Felicia	10
	Sara	8
3	Lisa	12
	Filip	10
	Emil	5
4	Niklas	13
	Andrea	12
	Jens	9
5	Johanna	8
	Ida	4
6	Ingrid	8
	Harald	6
	Arvid	2
7	Jessika	10
	Anton	8
	Mikaela	5
8	Hanna	8
	Ida	5
	Ludvig	3

All families consisted of two parents, a father and a mother. In some of the families (Families 3 and 4), grandparents were present during parts of the recordings. In some families, there were visitors and friends present during some of the recordings (Families 3, 4, 5, 7, and 8). Informed consent was obtained from all of the participants, family members as well as visitors. The adults are not presented by their first name, instead I have chosen to use mum/dad and grandma/granddad, which were the labels used by the children.



## Video recordings

Duranti (1997) claims that ‘participant-observation inside a house occupied by a large family might be one of the biggest challenges an ethnographer might encounter’ (p. 101). These challenges can be discussed in terms of ‘physical’ and ‘psychological’ space, which has to be seen in light of everyday notions of private and public space, due to the fact that there is less place in homes than, for instance, in a school. In short, the researcher first occupied a physical space simply by standing, sitting and moving along with the person in focus and, second, may move into a ‘psychological’ space where the participant feels the presence of the researcher as strange. As a participant in a study, one is observed by strangers in activities usually done on one’s own. Certainly, this can create situations in which the researcher intrudes into activities usually seen as private, such as tooth brushing, reading books or changing clothes. In the present fieldwork, this brought forward practical challenges such as finding a spot from which to observe the activities, at the same time as I tried to be as non-disturbing as possible, not standing in places where they had to ‘jump’ over me to do what they had in mind. At the same time, I had to get close enough to capture the ongoing activities in pictures and sound. So, the question to ask is not whether the researcher influences the situation, but rather in what ways.<sup>8</sup> In addition, field notes were written after filming each family. These were observations related to episodes that seemed interesting. The field notes have been useful in an early phase of the analytical work for identifying interesting sequences in the recordings and interviews.

The video recordings in family homes resulted in many episodes of children playing with the camera. Some children momentarily acted like pop-stars in front of the camera, while other children (and adults) showed an interest in the camera as a piece of technology. Several of the adults confessed feeling strange during the first day, but reported somehow getting used to having the research team around. This could indicate that the families found a way to handle family life and the research team at the same time. In the interviews, some of the adults told me they did not touch each other in the same way they usually did, and that they put on more clothes when they got up in the morning. This kind of ‘research influence’ does not seem relevant in a study of children’s computer activities. One way of dealing with the researcher’s influence on the situation is to make the researchers visible in, for instance, transcriptions (e.g. Study 4); another way is to keep a reflexive attitude while analysing the data and writing texts (Ehn & Klein, 1994). At the same time, these families chose to participate in the study, which may indicate that they saw their families as typical, or at least ‘normal’ Swedish families. As a typical family, there is no need to pretend to be different, therefore there is some reason to believe that they acted much as they would have had the research team not been there.

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<sup>8</sup> Duranti (1997) shows us that participant observation can be seen as activities in which the researcher’s level of interaction differs. Adler & Adler (1994), on the other hand, show how it is possible to classify the observer’s role based on what kind of ‘membership’ the researcher has in the group (a complete, active or peripheral member).

Each family was recorded for a week, two weekdays as well as Saturday and Sunday. The video recordings started when the first person got up in the morning and continued until the children went to school. Then we began the recordings again when the first adult person entered the house in the afternoon until the children went to bed. Two researchers video recorded activities in the families. One followed the target child in the family, while the other followed one of the parents. In total, the video recorded material from the two cameras amounts to about 300 hours of family life in which computer game activities constituted a few activities among many. The material has been systematized and categorized using activity logs (Ochs, Graesch, Mittman, Bradbury, & Repetti, 2006), where different persons' activities and localizations are marked. The activity logs have been used to navigate in the data and to identify computer activities. I have chosen instances in which children as well as adults have been involved in gaming or talk about computer games as well as surfing on the Web and talk about the internet. The target child was usually involved in most of the computer activities in the families. These situations have been transcribed and analysed in Swedish before being translated into English.

## Interviews

I have interviewed all of the target children about their computer activities, and the interviews varied from 15 – 40 minutes and took place after we had finished the video recordings in the family. The topics for the interviews were computer habits, the purposes for which they used the computer, who had access to the computer, who decided what kind of computers the family should get and possible restrictions related to computer use. These interviews worked as background information to help in understanding, for instance, how and why children negotiated about the computer in these families.

## The video camera in participant observation

In this project, I have used two types of video cameras. In the school, I used a small lightweight camera<sup>9</sup> that is easy to carry around. I also used a stand to get better film quality. In the homes, we used two cameras<sup>10</sup>. These were physically bigger, had a wide-angle lens and a microphone<sup>11</sup>. Here, a pole was used to get better pictures, and to make it easier to move around compared to using a stand. But why video record activities and what kinds of implications does this have for the fieldwork and the analytical work?

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<sup>9</sup> SONY Network Handycam (1,5 Mega Pixels).

<sup>10</sup> SONY DSR - PDX 10P (5.0 Mega Pixels).

<sup>11</sup> SONY ECM-NV1.

## Using video recordings and field notes

Audio and video recording have been the main data collection techniques in studies of what has been called ‘naturally’ occurring interaction, meaning interaction that is not initiated by the researcher, such as interviews are (Potter, 1996). Silverman (2001) claims that there are several advantages to using audiotapes in data collection. Similar advantages are also valid when we talk about video recorded material. Silverman (2001) claims that i) tapes are public records, ii) tapes can be replayed and transcripts improved and iii) tapes preserve sequences of talk. Following Silverman’s line of reasoning, it could be claimed that video recordings are in some respects available to the scientific community in a way that field notes are not (depending on the contract made with the participants). Related to the first point, it is possible to replay episodes, not only to oneself but also to, for instance, co-researchers, which allows one ‘... to present and discuss materials on which observations and analysis are based’ (C. Heath & Luff, 2000, p. 21). This means that not only is it possible to improve transcriptions of what happened, but interpretations can be the object of critical review from colleagues. Videotapes make it possible to transcribe the interaction in terms of sequences where facial expression and body orientation may be of importance (e.g., C. Goodwin, 2003; M. H. Goodwin, 1990; Schegloff, 1988), also called multi-modal interaction (Jewitt, 2005; Kress, 2003; Kress & Jewitt, 2003).

Despite the advantage of using video recordings, it does not imply that other techniques for gathering information are uninteresting. Rather, there are several advantages of writing and using field notes as accompanying data to video recordings. C. Heath and Luff (2000) claim that ‘without a sense of the social and technical resources on which the participants rely, it would be difficult to understand many of the activities in which they engage’ (p. 22). Moreover, this underlines the advantages of using several techniques, not only video recordings, during the fieldwork. As argued above, we need to know more than can be seen and heard on video recordings, which in my case concerned knowledge about computer games, knowledge about chatting habits and so on. Duranti (1997) walks the same line when he argues that field notes can be a way to obtain information on social background, education, profession, social status, age, knowledge and so on. Information that can be gathered simply by talking to people and that may be hard to find by looking at videotapes. As in my case, the field notes were used to identify activities that seemed interesting or that I did not understand and needed more information on. Then the field notes worked as a tool in my daily work in the field to help me focus on particular activities and, together with the activity logs, to navigate in the recorded material.

In the present study, field notes were one way of gathering information that did not occur in the video recordings or other information that could be of importance for understanding what happened. This can be exemplified, first, with events from the school. After four months, the class got a new teacher. During the next two to three weeks, the children could leave the classroom in the middle of lessons, claiming they had to go to the library to get information from the internet. When the new teacher

asked what they were doing, they claimed that this was the praxis in the class. Another example is from an online chat sequence on MSN in which one of the girls, Camilla, used a boy's name as part of her tag. When I asked her about her tag, she told me that it was the name of a boy she was in love with. Being present for an extended period in the field helped me see and understand actions and activities as part of ongoing practices or, as in the cases mentioned above, to know when activities diverged from ongoing practices. It has also been helpful regarding references to activities or persons mentioned in the interaction, but who were not necessarily seen on the film, as in the example Camilla's tag. In short, the combination of spending time in the field, field notes and video recordings has been of importance when describing and analysing computer activities.

### **Moving with a video camera**

The researcher's use of a video camera in the fieldwork can be seen as a kind of sociotechnical interaction that creates certain constructions of reality. In the present fieldwork, the video camera has been an important artefact in compiling the material. As discussed, the video camera has to be considered part of the situation. It has been claimed that, in the study of children, little attention has been paid to placement of the video camera and the impact this has on the taped sequences (Heikkilä & Sahlström, 2003). Placement of the cameras, in addition to technical equipment such as microphones and wide-angle lenses, is important for the analytical work that can be done. Four aspects of the situation are of particular interest when studying participants' perspectives in interaction: being able to hear what is said, being able to identify gazes, being able to identify bodily orientation, and being able to identify artefacts used in the situation (Heikkilä & Sahlström, 2003). These stances underline the notion that all knowledge is situated and partial.

The present study deals with questions concerning in what ways digital technology is a part of children's everyday lives. This implies that my focus was on social interaction and how technology was a part of the situation. Sometimes this can be seen in the recordings, where I use close ups on the screen to capture details of the children's screen moves in relation to their talking, while at other times, the focus is on body language and gaze, whereas what happens on the screen is passed to the field notes. Children's use of computers and videogames has been viewed with the camera from different angles, from behind, from the side, and from the front. Changes in points of view have been made to create variation in the material so as to better understand the children's gaming and chatting practices. Another way of solving problems of placement could have been to use microphones and more cameras. But these technical solutions bring with them other practical problems as well as economical concerns. They also raise ethical problems related to how far one can go in relation to children's integrity (Heikkilä & Safström 2003). Placement of the video camera has sometimes been a dilemma in the present thesis. The question has been how to get the best recordings of voices, gazes, body orientations, while still being able to see what is happening on the screen? In situations where

many people were present in the room and the voices were louder than usual, I moved closer to the children to capture what they said on tape. From time to time, a dilemma arose: do I want to see what they are doing, do I want to hear what they are saying, do I want to see the screen while they are chatting/gaming or do I want to see how they are moving their body and gazes?

## Transcriptions – turning social interaction into written text

Making written text out of social interaction is a well-known practice in social research. In the present text, episodes were selected and transcribed in addition to the research questions, using the transcript conventions in Table 3. The transcript conventions used are a modified version of what has been used in conversation analysis (Heritage, 1984). All data have been transcribed and analysed in Swedish, then translated into English.

**Table 4: Transcript conventions**

Symbol	Meaning
?	Inquiring intonation
=	Contiguous utterances
↑	Raising intonation
:	Prolongation of preceding vowel
(2)	Pause 2 seconds
(.)	Pause shorter than 0.2 second
Xxx	Something was said but the transcriber could not discern its content.
Wo[rđ	The bracket indicates the onset of over lapping speech
Word	Stressed word
Word	Online utterance
°Word°	Quiet speech
WORD	Loud speech
((laughing))	Comments made by the researcher
>Word<	Embeds faster speech than surrounding speech

Although transcribing social interaction is a well-known practice in social research, this does not mean that it is unproblematic. Actually, it entails several problems. First of all, writing interaction is a translation of social interaction into a one-dimensional medium, and there is no question that a video recording of an activity will give us more information about the activity than a written description of it will. We could claim that ‘writing is a very poor technology for describing the richness of the experience of either *being* in an event or *witnessing* it as an observer’ (Duranti, 1997, p. 113). Some of

the excerpts have been presented both as talk and as drawings (Study 1), which can be seen as an extension of the traditional transcription system such as it is often used within CA.<sup>12</sup>

How can transcriptions of video – audio material be understood as part of the work done by researchers? First of all, transcriptions of talk, gaze and body orientation are by definition a selective material. Ochs (1999 [1979], p. 167) claims that: ‘... the problems of selective observation are not eliminated with the use of recording equipment. They are simply *delayed* until the moment at which the researcher sits down to transcribe the material from the audio- or video-tape’. As I see it, the selective observation is not even delayed by using recording equipment. The observations made using video cameras are by nature partial and shaped through the placement of the camera and the microphone. Moreover, the process of transcribing the material concerns theoretical, cultural and personal interests. As formulated by Ochs (1999) transcriptions are theory: This means that every transcription is abstract and partial (see also Linell, 1994), but this is not to say that transcriptions of the material are completely random. Rather, this underlines the importance of reflexivity concerning the principles that govern the selection and presentation of the material. As such, ‘selective’ observation can hardly be a problem because it is always part of the research process, rather it concerns whether the researcher is aware of its limitations.

According to Linell (1994), transcriptions can be seen as the outcome of the interests in and the purpose of transcribing the situation. He claims that there are two main demands that have to be considered when doing transcriptions. One is the demand of ‘authenticity’, that the transcription be related to what is said, and possibly how it is said. This demand has to be seen up against a second demand concerning ‘practicality’, how detailed a transcript is to be must be seen in relation to the main object of the study, and in relation to how readable the text is to be in relation to various readers. Linell’s comments show that the transcribing process is not only selective with regard to what episodes get transcribed, but also in relation to how they are transcribed and in relation to what is transcribed. This is similar to what Silverman (2001) points at when he claims that transcriptions are not to be seen as technical details prior to the main business of analysis, but as an essential part of the research activity. If we compare the present studies in the thesis, we can see how the transcriptions differ regarding level of detail. Study 4, where attention was directed to response cries in the interaction, demanded more detailed transcriptions in terms of *how* words and sentences are said than did Study 2, which focused more on *what* is said.

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<sup>12</sup> C. Goodwin has been working on different ways of transcribing gazes and body orientation in interaction; see for instance C. Goodwin (2000, 2003) and M. H. Goodwin, C. Goodwin & Yaeger-Dror (2002).

## Translations

A study of Swedish children's computer activities presented in English implies translations of their everyday language and conversations. This adds yet another dimension to the selection process that started by choosing participants, the focus of the observations, episodes, ways to transcribe the episodes and, in translation, finding the English words that 'correspond' to the Swedish ones. In the present study, this has been done in terms of approximate meaning equivalents. This is similar to what has been expressed as the researcher's ability to 'match words with context' (Duranti, 1997). Yet, the translation is not a literary one. I have tried to stay as close as possible to the Swedish word order. Moreover, I have tried to indicate when and where talk involves pauses, false starts, etc.

## Analytical orientation

The data are partly the result of theoretical and methodological considerations. The present study is influenced mainly by ethnographic and discourse analytical perspectives that celebrate the study of activities in their mundane everyday settings (Clifford & Marcus, 1986; Duranti, 1997; M. H. Goodwin, 1990; C. Heath & Luff, 2000; S. B. Heath, 1983; Hutchins, 1995; Scollon & Scollon, 2003; Suchman, 1987).

In studying children's computer activities, the present thesis is driven by a number of analytical concerns and assumptions. First, the analytical focus deals with investigating the resources with which the participant produces action and recognizes the action of others. Second, it draws on the sequential and emergent character of social interaction to see how participants orient to each other's action. Third, it deals with a view on materiality in which digital technologies are possible participants that contribute to the emergent character of social interaction. I will now expand a little on these assumptions.

## Proof procedure and materiality

According to Potter (1996), there are two main aspects of the construction of reality that are of analytical interest. First, descriptions are part of how we understand our surroundings, which are related to time and space. These descriptions and categories are not constructed in a social vacuum, but are related to other categories and labels (Sacks, 1972). Hence talk in action moves beyond what is said in the actual activity. The second aspect that Potter (1996) emphasizes is that 'talk is action', and that it gets something done. Both aspects underline the importance of studying the construction and use of categories and labels in action, as part of the very activity being studied. Put differently, the activity that the researcher wants to say something about should not be initiated by the researcher, but should be observed in its usual surroundings. These kinds of observations have been called 'naturally occurring' data (Edwards, 1997). As already pointed out, the computer activities in the present study –

both in the school and in the home setting – are ‘naturally occurring’ in that they are not initiated by the researcher (Potter, 1996).

Analytically, attention has been paid to how language is used in interaction. Inspired by conversation analysis, two assumptions have been of importance when dealing with and analysing the data. The first assumption is that interaction among participants is sequentially organized in a turn-taking-system, which means that one utterance is followed by another one. The second assumption is that the participants’ understanding of each other is related to how the other person responds to the former speaker’s turn. As a participant in a conversation, I can see how my friend has understood what I said through the uptake in his/her next turn and through the way it unfolds or develops. According to conversation analysis, how the participants orient to each others’ turns is not only an important resource for people in understanding their fellow interlocutors, but this is also where researchers have to focus if they are to understand the activity. This has been referred to as the ‘proof procedure’ (Sacks, Schegloff, & Jefferson, 1974). The responses are seen as ‘proofs’ of how something has been understood by the participants themselves. For instance, an utterance may be seen as a gaming invitation if it is treated as an invitation by another co-participant. Put differently, this could be seen as taking the participant perspective’s in the analysis of social interaction.

The discussion on social interaction has largely been related to communication between humans, and materiality has been left unaccounted for. However, the question is not whether materiality matters in social interaction, but rather how it matters. Latour (1995) asks us to think away materiality in social situations and simply ask: would the activity remain the same if we were to think away the room, the clothes, the computer and so on. Thinking about how we would have to change the way we solve our problems if we took away a particular artefact is one way of seeing how materiality contributes to the situation. This is to say that we have to pay analytical attention to the impact of objects as well as humans on interaction. One way of dealing with this has been to transcribe actions, not in relation to who the actor is, but in relation to what is being done (cf. C. Heath & Luff, 2000). In the study of computer activities, this may be done because ‘actions are sequential and therefore “consequential” for those that come next in the sequence’ (Hutchby, 2001 p. 141). Making non-human actors visible in transcriptions opens possibilities to analyse how these actors matter. For instance, Birmingham et al. (2002) have shown how the interactional pattern changed when computers were treated as part of the situation (in that the computer was oriented to as a third party). When transcribing, I have made the computer an actor based on the assumption that it may make a difference in the situation, that it is oriented to in the turn taking system and that it becomes visible as an actor in the ‘social’ interaction. This means that the principle of proof procedures has been used as an analytical tool, but without principally making a difference between human and non-human. This is not to say that human actors are the same as non-human actors, but instead that interaction is studied as sociotechnical interaction (Latour, 1999).



## Considerations regarding generalizability

What do the present studies tell us about children's computer activities? Where and when can analyses and conclusions be valuable? How can results from individual computer activities be used? These are everlasting questions dealing with what has been called generalization. Larsson (2005), who has discussed generalization in qualitative studies, has identified five lines of reasoning. First, those who study cases that are so unique and interesting in themselves that there is no question asked about generalization. The second line deals with research that problematizes general statements (falsification), and where generalization is not a topic. The third line of reasoning is pursued by arguing for variation in the data. The main idea is that the researcher should be able to get as many different examples of the activity as possible, allowing him/her to say something about phenomena that transgress the individual situation. The main challenge is to know how to choose examples, which can be done in relation to theory (see also Glaser & Strauss, 1967; Silverman, 2001). The fourth line of reasoning deals with generalization in relation to similarities in context. According to this logic, the results are actualized through likeness in context. Studies carried out in large schools with many immigrant children say something about other schools that are similar in this respect. Finally, the fifth line deals with generalization through recognition of the presentation. The idea is that the reader is the one who decides whether or not the presented results are trustworthy and reliable. In short, this last line of recognition deals with how the results are seen by other researchers and readers of the text.

The present study follows two lines of reasoning. First, variation has been one of the guiding principles, which resulted in my investigating a variety of settings in children's everyday lives. Different computer activities as well as different variants of these have been searched for. Earlier research shows that the home and the school are two of the important sites in which computer activities are localized, and these have been my main settings. It has also been important to investigate computer activities during lessons as well as during breaks and in different places and spaces. This means that I have attended to computer activities in relation to where, when and together with whom. This principle facilitates my ability to determine whether or not an example is a single case or a reoccurring activity. In the analytical work, theoretical stances as well as earlier research have guided me when choosing which examples to transcribe and analyse.

The second line of reasoning I have followed has been to see whether or not new readers agree with the preliminary analyses and the conclusions I have drawn from the data. This way of working has mainly taken place in seminars and conferences, where researchers from other universities have participated in discussing the results. A version of this logic can also be seen with regard to how the examples were chosen and analysed in the studies. In this work, examples from the data were presented in several local research groups. Here, choice of examples, transcriptions, and preliminary analyses were discussed. This can also be seen as one way of increasing the quality of the study (cf. Silverman, 2001; C. Heath & Luff, 2000).

## Ethical Considerations

Ethical considerations are central to all social research. In the present project, directions given by the Swedish Research Council have been used as guidelines in the research process, from the first contact in the fields, through the fieldwork, and in the writing of the public texts (Vetenskapsrådet, 2002).

In negotiations for entry to the school field, information about the project's purposes and interests was given to parents, children and teachers. I explained what their roles as participants in the project would be, and the possibility of withdrawing from the study if or whenever they wished. In these negotiations, I also talked about my role as a researcher and how the data would be used in publications. One of the caretakers and the child in question had to sign a 'contract' stating that they both agreed to the child's participation in the project (at school). Because two of the children in the school setting did not participate in the research project for different reasons (see above), I did not use the camera in situations where these children were present. Similarly, all parents and children in the family home setting signed the contract<sup>13</sup>.

The idea of children's informed consent seems unproblematic, but entering the field does not mean you have access to all situations that appear. One ethical dilemma in relation to observing children's everyday life in schools and families can be found in the tension between *entry* and *access* (Ball, 1993; Hammersley & Atkinson, 1995). I had formal entry to the school and the home settings, and I was given access to many situations. During the first weeks, I was 'tested' to see on whose side I was in the 'battle' between teachers and students. This was done by, for instance, the children visiting web pages they were not allowed to access when I was watching them, presumably to see how I would react. Students from other classes sometimes commented on my presence, but the boys whom I followed usually replied by saying 'that's no problem'. I saw this as a sign of my being accepted as someone other than a teacher and that the boys in some sense trusted me. In short, I will argue that this exemplifies the difference between entry and access, where access means I was allowed to follow the boys through their days and activities. It was no problem to follow the boys during the breaks, but with the girls this was harder. It worked well as long as they moved in larger groups of five and six, and when they stayed in one place. There was no problem talking to them one by one, but when they moved around in groups of 2 - 4, which they usually did, it was obvious that I was not a member of the group.

There were also situations in which the participants did not want me to make recordings. And I had initially asked them to inform me about all such situations. In the school as well as in the homes, I have examples of participants asking me to turn off the camera, and sometimes they asked me to leave. Examples of this in the school could be discussions of boyfriends and writing e-mails. In one of

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<sup>13</sup> Read more about the fieldwork in families and reflexivity in Aarsand & Forsberg (2007/forthcoming).

the families, there was an adolescent girl who spent most of the time in her bedroom with the closed door during the time we visited the family. Closing the door was established as a 'signal' between the participants and the researcher to tell the research team that they wanted to be left alone. These examples show how the ethical guidelines are a matter of acting in the situation, of being sensitive to what is happening, rather than merely following abstract rules that govern official entry into the field. Seeing research as 'ethics-in-interaction' means that children are treated as actors, who are able to make their own decisions regarding questions of privacy.

The ethical guidelines given by the Swedish Research Council underline the responsibility researchers have, as the professional party, in the research projects. This concerns the information participants must be given before they can choose whether or not they wish to take part in the study, as well as the importance of keeping identities confidential to protect them from unforeseen reading of published material. In the school, many of the students displayed a certain disappointment when they realized that they, and their school, were given pseudonyms in the book. In the present project, adults as well as children had the right to stop the camera. In our publications, all names of family members have been fictionalized to protect the anonymity of the participants. Moreover, we do not write about unique events that may reveal an individual member's identity. In addition, all of the research material is kept locked in a cupboard and is only accessible to members of the research team.

# Summaries of studies

## Study 1: Alternating between online and offline - tags and frame switches as interactional resources

Pål André Aarsand

In the present study, the notion of *participation frameworks* (Goffman, 1974, 1981) has been used to analyse the social interaction among a group of seventh grade students chatting in a computer room. The distinction between online and offline activities is made in social interaction. This distinction, however, is not only sustained, but also challenged by the social interaction that took place in the classroom. In the text, it is shown how this distinction is made and displayed in the classroom through differentiation between ratified participants and bystanders. The bystanders are told half of the story, namely that something worth knowing is taking place on MSN, but the content is restricted to those who have access to the chat room. This means that the online and offline distinction is treated by the participants as a border between different activities. This does not mean that the border created differs radically from what can be created using whispering and talk in the classroom. It could be argued that MSN works as yet another modality in the interaction between the students, while face-to-face interaction is another. Ultimately, the switching between activity frames, between what is considered as an MSN activity and what is a classroom activity, creates the distinction between online and offline. Goffman's (1981) distinction between 'play' and 'byplay' does not really hold up in the present data. Instead, it is the very switching that characterizes the present activities, where I have chosen to focus on frame switches as one type of borderwork phenomenon.

In focusing solely on what has been called online activities, there is a risk of oversimplifying internet activities in everyday life (Hardey, 2002). Rather, we '... need to think in terms of how people simultaneously manage multiple ways of being present and multiple levels of presence within multiple fields of interaction' (Jones, 2005 p. 31). The starting point of the present research was to study the boundedness of 'offline' and 'online' as a social achievement (Leander & Mckim, 2003). Hence, in this paper, the online/offline distinction is used as an analytical heuristic. The present study focuses on young people's use of MSN (Microsoft Net) Messenger while they were located in a classroom, and more specifically on identity performance and how it may transcend the online/offline distinction. The fact that the students are located in a classroom also means that online chatting is to be considered an illegitimate activity, seen from the school's point of view. In addition, the use of tags and the ongoing references between the two sites of interaction also blur the distinction between online and offline activities. When borrowing a tag, it becomes important to inform the other chatters that the relation

between the chatter and the tag has changed. The frame switches and interplay between activities illustrate how activities are fragile, unstable and open for negotiation.

Identities were also studied in relation to what I have called *tags*, which is the visual-textual design of MSN identities in relation to 'talk'-in-interaction. A tag consists of combinations of written texts and symbols, which work as a signature or so-called nickname that precedes each utterance in MSN. The notion of 'tag' is used instead of 'nickname', which is too textually biased. Tags are read as identity performances, the possibility of playing with identity and doing someone else. It is shown that they are explicitly related to a known physical body and to an offline identity in terms of a known name. References to activities in other locations can be seen in that tags can work as *emotional displays*, where the chatters' emotions (here being in love) were made visible. Displaying emotions can also be done using the emoticons (for instance, ☺ ;- ) ☹ :-o ) that are part of MSN's software. Another aspect of the tag is that it works as a *competence display*. In the present study, the girls had moved beyond the standardized choices made when creating an account on MSN. This displays somebody who knows how to handle digital technology, particularly MSN. The tags then work as a bridge between online chat and offline activities, where offline activities and identities are interwoven. Not only is this seen through the very use of tags on MSN, but also with regard to talk in the classroom (Example 1), where the MSN identity is made a topic.

## Study 2: Computer gaming and territorial negotiations in family life

Pål André Aarsand

Karin Aronsson

This study examines territorial negotiations concerning gaming in the homes of Swedish middleclass families based on what has been seen as an increasing domestication of childhood (James, Jenks, & Prout, 1998; Zelizer, 1985). In studies of location and use of information and communication technology, it is argued that the location of technology has an impact on how it is used (Bovill & Livingstone, 2001; Facer et al., 2003; Holloway & Valentine, 2003). This implies that computer practices in the living room may differ from practices in bedrooms.

Families are also political bodies for which the home can be considered one of the main arenas. Family politics can be seen in the everyday organization of and negotiations in family life (Ochs & Taylor, 1992), and it may concern everything from children's homework to how to arrange furniture and other artefacts. In the present analyses, we have made an analytical distinction between communal and private areas in the homes, where we expect computer game activities to differ depending on the location in which they take place. In the present study, we have started by localizing the game consoles. In short, all 22 children had bedrooms of their own, all of them had access to game consoles (videogame consoles or computers), but only two of them had game consoles in their bedrooms. There

may be several reasons why the game consoles were mainly placed in communal places. First, it could be because most of the children in this study were between 8-12 years of age, an age during which children tend to stay in communal family areas together with other family members (cf. Christensen et al., 2000). Second, game consoles in communal places can be seen as an expression of what is important to the family members themselves. Displaying new technology may be a way for families to express and sustain their sense of themselves, their identities as innovative modern families who possess new technology. Or they might like to be seen as child-centred families by localizing children's gaming equipment in the centre of the family's communal areas. Third, the communal placement of gaming consoles could be interpreted as a matter of surveillance: a way to keep an eye on how much time the children spend on gaming. Moreover, parents may want to know which games their children are playing, and moreover, which websites they visit (cf. Facer et al., 2003; Valentine & Holloway, 2001).

Location of game consoles in communal areas of a home does not necessarily mean that everyone in the family has the same possibility to access and use game technology. We have therefore investigated how family members use computer games in their everyday lives. This shows that the communal places were contested in that they were recurrently the object of territorial negotiations concerning who could appropriate the areas for gaming, what to play and when or for how long. The fact that the game console is located in communal places such as the living room makes this an activity that competes with other activities. When, for instance, a parent restricts the gaming time, s/he also establishes who is in charge of the living room and who decides what kind of place this is going to be and for how long.

In the family members' appropriation of communal places for gaming, strategies like excluding and including were reoccurring. *Excluding* was also practiced by the gamer through minimal responses and by steadily keeping the gaze directed towards the screen without responding to any utterances addressed to him/her by co-participants. This orientation has been seen as a marking of what was the main activity and main space of interaction (Goffman, 1974). *Inclusion* was another strategy used by the participants in our data. Here, the creation of gaming space was constituted as a collaborative activity, in which members of both generations were ratified participants (Goffman, 1974, 1981). By turning gaming activities into joint actions, there was no competition about the communal place and thereby it was turned into a gaming space.

In the present study, gaming was integrated into the families' media consumption. This could be seen in that gaming was (i) a communal affair in that the game equipments were located in communal places in the families and (ii) that adults talked about and took initiatives to gaming. This did not mean that use of computer games was unproblematic, rather that the parents recurrently imposed temporal restrictions, limiting when gaming could take place and for how long. The placement and use of

computer games mainly involved communal places, which caused the distinction between private and public to break down, or become blurred in the face of family members' everyday lives.

### Study 3: Computer and Videogames in Family Life

#### - The digital divide as a resource in intergenerational interactions

Pål André Aarsand

The difference between those who know and those who do not know how to act in a digital environment has been referred to as the *digital divide* (Becker, 2000; Papert, 1996; Tapscott, 1998). The digital divide concerns questions of digital literacy (Tyner, 1998), which can be understood as competence regarding how to read and produce audio and visual texts in digital environments. According to the debate, there are patterns regarding who is to be seen as digitally literate. These patterns have been explained in terms of social-economic background, ethnicity, gender, geography and generation (Buckingham, 2003; Buckingham & Scanlon, 2003; Facer et al., 2003). Among the social phenomena that have been seen as explanations of digital divides, I have focused on 'the generation gap', an asymmetrical knowledge relation between children and parents. One assumption is that the generation gap is made visible in the encounter between children and adults (generations), and particularly in relation to digital activities in which children are seen as digitally literate. The present focus is on children's use of computer and videogames. In order to understand the generation gap, we have to focus on how it is produced and the social consequences it has with regard to the social order created.

The present study shows that when computer and videogames are part of a situation in which children and adults are co-present, the digital divide is displayed as an asymmetrical knowledge relation such that the child is positioned as the most knowledgeable. Seeing the generation gap as a knowledge *relation* indicates that it deals with participants who position themselves and others in relation to the use of digital technology. In the present text, the asymmetrical knowledge relations are displayed in relation to the rules of the game and the overall structure of the game. In several of the present examples, the child enters the position of someone 'in the know', which is displayed in positions such as instructor and teacher (Excerpts 1 and 2) and game expert (Excerpt 3). The children use the asymmetrical knowledge relation to create a 'social space' in which they may act as competent actors. In situations where the activity is known to the adult, as in playing patience on the computer, the activity becomes defamiliarized in the digital setting. This means that a digital divide is created and used as a resource for the children to stay in the know and to keep parents ringside of the ongoing activity. In this text, it is shown how the child is accepted as the one in the know, positioned as an instructor/teacher. Yet by entering the position as an apprentice, the adults become ratified participants

in the activity (Goffman, 1974). This means that the digital divide is used by adults as a social resource to enter the gaming as a ratified participant. In short, gaming is sometimes also used by adults as a resource for spending time with children.

In the present study of adult-child interaction in gaming, the digital divide is constructed in relation to several topics. In one of the examples, a boy and his grandfather play NHL ice hockey on a Playstation 2. This activity implies several aspects that the grandfather has to master in order to play. In terms of interfaces, it is argued that he has to deal with (i) how to physically connect to the game through the console controller (ii) how to communicate with a game that deploys the English language to offer instructions. In addition, he has to understand and handle the logic of the game. This can be seen when the grandfather is watching his grandson's adjustment of the teams, where he displays that he does not understand why this is done. A similar example of a lack of knowledge in relation to the logic of the game is given in Excerpt 4. Here, a young boy similarly uses his grandfather's lack of computer game literacy to negotiate his bedtime. In short, the children exploited the digital divide to 'control' the social organization of the activity. But, as mentioned above, the question of digital divide not only deals with how to read digital texts, but also concerns how to gain access to these texts.

In short, I argue that the digital divide is a result of joint actions taking place in the encounters between children and adults, such that the child is positioned as the most knowledgeable in the relation. The study shows how computer and videogames are used as resources both by the adults and the children in the creation of a digital divide. The children sometimes restricted the access of adults by making digital literacy relevant, thereby sustaining the generation gap. In addition, the adults also used the digital divide as a resource for doing things together across generations, where the gap offered them a social space for joint action with the children. This means that the digital divide was a strategic interactional resource for the adults as well as the children.

## Study 4: Response cries and other gaming moves

### - Building intersubjectivity in gaming

Pål André Aarsand

Karin Aronsson

Speakers may engage in spill cries such as 'oops' and 'shit', threat startles such as 'eek', audible glee and surprise such as 'wow', as well as revulsion sounds and pain cries like 'ouch'. Such response cries (Goffman, 1981) are sometimes produced as if they were part of self-talk, but in the presence of co-participants – for instance muttered or spoken under one's breath as in the case of many exclamatory imprecations such as 'shit', 'fuck' or 'damn it' – thereby challenging any simplistic notions of recipient design. Research on the use of response cries draws attention to rule breaks (Goodwin,



Goodwin & Yaeger-Dror, 2002) as well as to displays of surprise (Wilkinson & Kitzinger, 2006). In our work on children engaged in playing computer games, we have noticed that their gaming is recurrently marked by response cries and other forms of blurted talk (for instance imprecations, pauses and half-finished sentences).

In the present study, we documented intersubjective negotiations in relation to game technology. Intersubjectivity was created in relation to i) the situation at hand and ii) the positions involved. The analytical focus has been on positioning within participation frameworks (Goffman, 1981), and we present empirical examples that form a continuum from solitary action (someone playing alone with the computer) to coordinated modes of joint playing between two or more human co-participants (here: child-child; adult-child) in relation to game technology. These ways of positioning oneself are, of course, not completely distinct or separated.

An important aspect of the article is the question: Where is the action taking place – in the virtual world or ‘real’ world, that is, are the participants actually playing or are they merely talking about gaming or planning to play? Response cries have been one way to investigate the relation between the virtual and the ‘real’. In the present study, response cries were sometimes open-ended in terms of recipient design in that we do not know whether the gamer is talking to his co-players, to himself or to the game. In the present data, we also observed what we called *animations*, that is, when the gamer either talked on behalf of their avatar, or addressed a game character. Examples of this could be seen in one excerpt, where the gamer cried out ‘well but!’ and ‘shit’ when he was not succeeding in his mission. Simultaneously, response cries can be seen to work as parts of the ‘architecture of intersubjectivity’ (see also Heritage, 1984), where the cries summon others’ attention, such as in Excerpt 2: ‘look!’ and ‘check it out!’ (lines 15 and 23).

In joint gaming among same-age boys, gaming dialogues involved a type of improvisation that is constituted by the players’ collaborative gaming actions: singing along, making sound effects, producing response cries and animations. These communicative actions were seen to form a type of *action aesthetic*, a type of performative action for securing and displaying joint involvement and collaboration. A rapid tempo could be seen as part of a local adjustment to the speedy action of the game, but also as a kind of action aesthetic of speedy action and speedy talk. A common pattern that could be identified was: action done by the game + uptake by one of the two participants + similar action by the co-participant. Jointly, the two boys established a sense of drama through their combined invocation of distinct performative resources: sound effects, response cries and repetitions. In all, the response cries establish or sustain a temporary zone of collaborative action, and their efforts are coordinated in ways that create a sense of speedy action.

Besides with singing along, sound making, animations and code-switches, response cries were important resources in choreographing the moving in and out of virtual space. In many ways, the

action aesthetic challenges the distinction between virtual – ‘real’ and object – subject, in that whom the gamer is talking to or on behalf of is not given, which can also be seen with regard to where the game starts or ends.

## Concluding discussion

The interactive nature of digital technologies invites us to discuss questions concerning human sociability and how we organize and socialize in Western societies (Hutchby, 2001). Children's everyday lives consist of negotiations, where aspects of being a social actor in social structures are made visible. The present thesis has drawn attention to four aspects of children's everyday use of digital technology: MSN chatting in school, computer games as encounters between generations, appropriation of space for computer game activities in families, and computer game activities as part of the organization of the social world. The purpose has been to study how children participate in computer activities such as gaming and chatting, and what this may tell us about the social organization of children's everyday lives. The following discussion will focus on the so-called generation gap between children and adults, and on three distinctions that are created and sustained through borderwork: (i) public/ private, (ii) real/virtual and (iii) subject/object. These distinctions are present in all of the four studies, but how they are actualized differs from situation to situation.

### The generation gap

Within the new sociology of childhood, adults and children have primarily been seen as relational categories rather than as developmental stages (Alanen & Mayall, 2001). A reoccurring topic in the present studies is the encounter between children and adults, or in other words, the encounter between generations. As discussed in the chapter 'Activity frames, play and identity work', children's activities have often been described in terms of playing (James, Jenks & Prout 1998). Playing can be seen as one of the key components used when describing the Western child, which means that play is closely related to assumptions of what children are doing, and what it is meant by children and childhood. Playing computer games is often discussed as a child or a youth phenomenon (Tapscott, 1998, Gee, 2003). This means that displaying digital competence is part of being a child. It could be argued that children are doing borderwork by engaging in what are 'childish' activities and by appropriating these. When something is made a 'childish' activity, it also becomes unproblematic for adults not to be the most knowledgeable or ask questions about the activity.

Chatting and gaming are examples of activities in which the distinction between adult and child is different compared to, for instance, classrooms activities or bedtime routines in which adults and children have clearly defined positions, that is, when generational positions are relatively fixed, such as teacher-student and parent-child. This could be seen by the fact that the adults (i) participated in game activities together with the children (Studies 2, 3 and 4) (ii) took the initiative to play computer games (Study 2) and (iii) even played computer games by themselves (Study 4). In brief, the adults participated in computer game activities, and thereby aligned with the children in doing 'childish'

activities. In short, generation was not used as a prefixed category for engaging or not engaging in computer game activities. Yet, in discussions concerning children's use of digital technology, it has been claimed that there is a digital divide, a knowledge gap discussed in terms of generation gaps (Tapscott, 1998; Papert, 1996; Becker, 2000). In Study 3, I have shown how such a knowledge gap between adults and children is created and sustained by both children and adults. Thus, this knowledge asymmetry was used as a *resource* by both children and adults. By positioning themselves as willing co-players, and novices, the adults got access to 'time' with their children. Conversely, the children managed to postpone bedtime by acting as the game expert while together with the adults (Study 3). When the adults accepted the child as the one 'in the know', they also accepted being positioned as novices. This relation implies two ratified participants, someone who is in the know and someone not in the know, a master-like or game-expert-like position versus and an apprentice-like position. The generation gap was thus used by either party, an adult or a child, in the social organization of the computer activities.

The relation between the generations, between adults and children, can be described in terms of positions (Goffman, 1974, 1981) that are negotiated and sustained in gaming. Studies 2, 3 and 4 all deal with computer game activities, in which the children were recurrently positioned in or entered 'master'-like positions and the adults 'apprentice'-like positions. Families, seen as political bodies, consist of different generations and include ongoing negotiations concerning the positions and activities taking place. Being positioned as the most knowledgeable does not merely entail privileges. In Study 2, it is shown that when game consoles are located in communal places in homes, the place, for instance a living room, becomes an object of negotiation. In these negotiations, the children's computer game competence does not necessarily have any impact on the outcome of the negotiations. This can, for example, be seen when the adults appropriated communal places in the families for their own interests, such as watching TV and playing computer games (Studies 2 and 4).

The question of game competence is also actualized in negotiations about time and space in families. For the 'ones in the know', computer games can function as a resource in the appropriation of communal places in the homes. This asymmetrical knowledge relation was used by children and adults to keep 'the floor' by continuing with gaming and through talk on computer games. When the children positioned the adults in apprentice-like positions, they thereby *included* themselves in the game activity. This actualizes questions concerning what kind of competence children have in handling the digital technology. With respect to computer games, adults often positioned the children as being in the know by asking questions about the rules of the game (Study 3), how to deal with the technical equipment (Study 3) and the overall structure of the game (Study 4). Moreover, in online chatting and computer game activities, it could be seen how the children appropriated the chat room by creating tags associated with youth culture, by customizing computers and by handling the technology as if it were an extension of themselves.

The generation gap in terms of asymmetrical knowledge relations can be seen in several of the present studies (Studies 2, 3 and 4). What is notable is that these asymmetries are created and called upon by both parents and children for different purposes. The generation gap did not seem to be a problem for the participants when studied in situated activities. Both, the one positioned as less knowledgeable and the one in the know presume that both parties are willing to enter an asymmetrical knowledge relation. As can be seen in the studies, this is not always the case. At times, there was a displayed resistance against creating a joint computer game activity. This could be seen, for instance, when adults asked their children's advice to solve a problem in a game, and when the child did not enter the offered position as the expert, but chose to remain a bystander (Study 4). The question of generation is also actualized in online chatting, but in a slightly different way than in gaming. According to the contemporary public discourse on children and the internet, one is supposed to 'stay within' one's own generation in online chatting. Children chatting with unknown adults is not seen as something positive. In relation to this discussion, categorizing the Other in terms of age and generation is of importance. In Study 1, we see that identity-work in online chat environments is part of the chatters' everyday lives. By looking at how other chatters display their identity online, the children argue that it is possible to identify the approximate age (generation) of the chatter, to draw a distinction between adults and children. The tags in online chat consisted of references to what is considered as youth activities (Study 1), displaying their interests, where they come from and their friends. Put differently, the tags are generation marked and together with what is written online, the tags work as symbols used in creating a distinction between generations. In Study 4, we see how children used other aesthetic resources in their playing than adults did: animations, sound effects, singing along and response cries. Such an action aesthetic occurred among 'game equals', here children, rather than between players in an obvious asymmetrical knowledge relation.

The question of the generation gap has been discussed as a problem in relation to questions regarding who has access to and knows how to use digital technologies and digital arenas. The present thesis does not tell us whether or not this is a structural problem for society at large, but gives us some indication as to how the generation gap is constructed and how it is used in interaction. It shows how the digital divide is used as a resource in creating the distinction between adults and children, and that this largely follows the positions master – apprentice.

## **Borderwork in computer activities**

Creating activity frames also means creating borders. While Goffman's notion of activity frames directs our attention to what the participants agree on, Barth's (1969) notion of *borderwork* directs our attention to what differentiates activities from each other. The notion of borderwork is often used in relation to how broad categories are created in social interaction. For instance, Barth himself has focused on boundaries created between ethnicities in northern Norway, while Thorne (1993) has

explored the boundaries between boys' and girls' activities in two US schools. They both show how boundaries are created in activities such as doing being a Lap versus Norwegian and doing being a girl versus a boy. From a theoretical point of view, I will argue that, by establishing activity frames, we sometimes also create borders.

The distinctions between public/private, virtual/real, subject/object are produced and sustained through what I have called the participants' *borderwork*, drawing on the theorizing of Barth (1969) (see also Study 1). Borderwork emphasizes how borders that differentiate activities from each other are created and thereby produce identities. Borderwork directs the attention outwards, to what is not me, us or this. It is a negative definition of identity created through distinctions. These borders are not given, but can be seen as fields of negotiation. Activity frames (Goffman, 1974) and border work can be seen as similar phenomena, but differ regarding what is in focus. In the present thesis, it is shown how children, adults and computers are parts of negotiation of different distinctions such as virtual/real. In addition, there are also negotiations concerning how and when to understand the distinctions and relations between some of the present key categories: adult, children and computers.

## Activity frames and participation framework

In the present study, Goffman's (1986 [1974], 1981) notion of *participation framework* has been deployed to analyse children's use of digital technology in their everyday lives (Studies 1 and 3). Who are the ratified participants, and who are the bystanders? Who is engaged in byplay, crossplay and sideplay? However, the question of identifying a main activity frame becomes problematic when there are simultaneous, multiple communicative projects. Goffman (1974; 1981) is well aware of the multiple and ambiguous character of communication. Yet his notions of byplay, crossplay and sideplay require one main activity. Several recent studies have dealt with Goffman's notion of participation framework and the multiplicity of social interaction. Most recently, this has been done in terms of hybridities (Coupland & Coupland, 2000; Linell & Thunqvist, 2003; Sarangi, 2004), where questions of switches between activities are viewed as frame management (Coupland & Coupland, 2000). The addressing and receipt of utterances become central to how the framing of activities is accomplished. This is one way to deal with the 'hybridity' of communication, but it still rests on the notion that certain activities constitute a sort of hub around which other activities revolve, in the form of sub-activities.

In the present investigation, the notion of participation framework became problematic to use, more precisely, the main activity versus byplay, crossplay and sideplay. In studying online chatting on MSN and talk among the children in the classroom, my original question was: What is the main activity and what kinds of positions do the participants enter in relation to the activities (Study 1)? Three possible main activity frames could be observed in the data. First, the children were in school and had a school

assignment to deal with. This could be seen as the main activity. Second, online chatting could be seen as the main activity. Finally, talking in the classroom was an ongoing activity among the children and could also be seen as the main activity. Depending on which perspective one chose, the very same activity could be seen as the main activity or as byplay.

In Study 1, I have shown that several activity frames are established and sustained through the very switching between activities or through borderwork. The consequence of this is that identities have to be studied in terms of a network of activities by paying attention to the *switching of activity frames*. The focus has to be directed to ‘... how people simultaneously manage multiple ways of being present and multiple levels of presence within multiple fields of interaction’ (Jones, 2005 p. 31).

## Public and private space

In the present studies, the distinction private /public has been problematized in several ways in relation to the children’s use of digital technology (Studies 1-3). In the homes, the game consoles were mainly located in communal places, but this does not mean that the game activities were necessarily public (Study 2). Whether or not the activity was private has to be seen as the outcome of negotiations. This can be seen in the example when the gamer excludes his mother from the gaming (Study 2), which was done through gaze, body torque and minimal responses, marking his selective field of attention. Thereby, the player turned gaming into a matter between him and the game. A similar episode could be seen when the father asked the children to leave the living room because he had to watch TV (Study 2, Excerpt 1). By appropriating a public space and sending the children away, the adult turned it into a private space. In these cases of computer games activities, it can be seen how places are indexicalized through the performances of the participants. The very switching between activity frames was a reoccurring activity, where the distinction between private and public is created, sustained and changed in the situation. For example, by implicitly conveying that this is a private activity on MSN, not something meant for classmates, a participant can create borders indicating that the activity is not public. The switching between activity frames, frame management, can be seen as a manoeuvring of different activities, such that the border is created in relation to the activity of switching. This may be a question of who is a ratified participant in an activity, and who is to decide what is going to happen where, when and together with whom. Managing the place and time can be done in order to create and even control private and public spaces (cf. Foucault, 1979 [1975]).

Gal (2002) suggests that we look for *indexical* properties of the public/private distinction. By doing this, one will rely on how it is used in the situation at hand. Accordingly, the distinction will differ from situation to situation. Gal discusses public/private as a *fractal distinction*. As an example, she shows that from the street, a house is often seen as a private space, but when we get inside the house, it can be divided into private and communal (public) places. When located in the living room, a

communal place, a corner of the room may be seen as private because a private conversation is taking place there. In short, the distinction is fractal and indexical, and depends on the work being done by the actors.

Study 1 explored what was private and public in the use of MSN in a classroom. MSN is often seen as a 'private' chat room because of the chatters' possibilities to choose with whom s/he is chatting. In this study, it is instead shown that online chatting 'trickles' into and becomes part of the classroom by being partly displayed to other persons present in the computer room. Note, however, that the distinction between private dialogues and public ones is not stable in that all that happens on MSN is either private or public. Rather it can be seen how the private/public border is sometimes made clear along the line of online versus offline activities and how it sometimes does not follow these distinctions. The frame switching, in terms of changing from private to public activity frames or vice versa, can be seen as examples of the fractal character of this distinction and how it changes in interaction. Similar, it is important to keep in mind that activity frames are to be seen as both the outcome and the condition for the activity.

How the distinction private/communal works in the family homes is highlighted in Studies 2 and 3, in our discussion of computer games as public activities. Game activities in communal places in the homes of families challenge the idea of stable borders between private and public. Game activities can obviously be public activities in the families, as when the child instructs an adult (Studies 3 and 4). In such examples, children display to their surroundings that they are competent gamers, that they know how gaming works and that they even expect the attention of adults by positioning them as apprentices.

## **Real and virtual**

'Virtual' is often used in opposition to 'real' (Benwell & Stokoe, 2006). This distinction is seen in discussions concerning digital activities related to the internet as well as computer games (Benwell & Stokoe, 2006; Crystal, 2001; Fornäs et al., 2002; Sundén, 2002). In the present studies, I have referred to gaming space and online activities when discussing the virtual. The distinction real/virtual has been studied through the participants' own gaming and chatting activities. I have investigated how this distinction appears by focusing on how online identities are displayed through the use of what I have called tags, that is, visual and verbal displays of the chatters' online identities (Study 1). Analytically, I have thus dealt with the distinction virtual/real in the ways that the participants themselves use and orient to it.

Tags, as virtual identities, are symbols that represent the chatter in the online chat room (and, as has been shown, outside the chat room). These signatures, placed after each online activity, can be read as representations of the self. In Study 1, this can be seen when one of the participants makes it clear that



she is not the one who is represented in the chat room, but it is instead her friend. This shows that using tags implies responsibilities that go beyond the online encounter. The issue of responsibility 'collapses' the distinction virtual/real, because what happens in virtual chatting has consequences for the chatters' everyday lives. Then the question is: Where does the virtual end and the real start? Another issue that highlights this distinction concerns where the border between the activities is drawn. This distinction is highlighted in the present discussion of online chatting among children when the chatters were localized in the same place, the computer room. The study shows how the border between the virtual and the real is worked out by the participants through indexicalizing the activities. Sometimes activities were indexicalized as online chatting, thereby not meant to appear in the classroom. Another example showed how one party challenged an established border between virtual and real by displaying online chatting in the classroom. In this way, the borders are worked upon, either by reproducing the established distinction or by creating borders somewhere else and sometimes even in relation to other distinctions, such as public/private (Study 1).

In the present studies, the borders between virtual/real were also made relevant with regard to handling the software. This could be seen when the gamers did not understand the language used by the game (Study 3), when the chatter did not know how to identify other chatters (Study 1), or when the gamer did not know how to deal with the game (Studies 2-4). In Study 3, this is seen when the girls and the computer framed patience as a *computer* game, rather than a card game activity that can be played with cards on a table. These examples show how problems with handling the virtual actualize the distinction virtual/real, thereby making it relevant for the participants.

In Study 4, *action aesthetic* was discussed along the lines of what is real and what is virtual. The study shows that when playing computer games, the gamers related to and interacted with the game in such a way that elements from the game were brought into the social interaction. Response cries, noising, singing along, and animation were all phenomena that expanded the borders of the game. Thus, the action aesthetic could be tentatively seen as part of the borderwork of computer gaming. Despite the fact that only a few examples of action aesthetic have been studied in detail here, it could be mentioned that in my data, this phenomenon was more likely to occur when the gaming was practiced as joint action among players displaying similar levels of game literacy. The distinction virtual/real cannot be taken for granted; it becomes the very subject of the game (cf. Rodriguez 2006), and it has to be seen as part of playing computer games.

To sum up, the virtual/real distinction cannot be seen as a stable and clear-cut distinction, but rather as a dimension that is made relevant in social interaction.

## Subject or object

When borders are discussed in relation to computers and humans, the notion of interface has been used. 'Interfaces are the sensitive boundary zone of negotiation between the human and the machinic as well as the pivot of an emerging new set of human/machine relations' (Poster, 1995 p. 21). Interface can be seen as the border or the field between the subject and the object, where the relation between the different actors is negotiated. This underlines the notion that the distinction between subject and objects, or man and machine, is not given, but can be seen as a field in which this is negotiated.

The distinction subject/object is a recurring topic in the present studies, and it is made relevant along several dimensions. In order to play computer games, one needs to know how to handle the game consol controller or the keyboard; this is necessary if one is to act in virtual spaces. As long as it is not problematic to handle a console controller or a keyboard, these aspects of the virtual/real remain invisible. It can be seen how the console controller simply becomes a prolongation of the gamer, while playing computer games. The consol controller can be working as a hand, a prosthesis (Clark, 2003; Haraway, 1991 [1985]), which picks things up or clicks on icons. In short, it is a part of the gamer that is used to deal with the game and with other gamers in the game. When this technology does not work, or is problematic in some way, the distinction subject/object is actualized. This can, for instance, be seen when the grandfather asks which button to push in order to play a game (Study 3). It became obvious to the grandfather that the technology was something 'outside' himself that he could not handle, and how to act became a question of interface (turning his gaze to the Other, the console controller). In the present data, problems concerning how to handle the material aspects of the computers were not observed among the children.

A similar, but still different aspect of possible borders between subject and object can be seen in how the children use avatars. In several of the studies (2 and 4), we see how the children talk on behalf of their avatars, animating the game characters, by saying, for instance, 'o:h where am I? I don't see myself (.) I don't see myself' (Study 2, Excerpt 2) or act as if they were being treated badly when the game characters attack. The avatars thus become an extension of the children in the game. Animations concern aspects of what has been discussed here in terms of action aesthetics, but they also point out the problem of the traditional dichotomy between subject and object. Both 'unpacking', i.e. making the distinction between subject and object, and 'blackboxing' (Latour, 1999), i.e. widening the borders for what is part of an entity, are local processes of pinpointing what is considered as entities. Thinking in terms of unpacking and blackboxing mean that identities, and then interfaces, are created on different levels in relation to the ongoing activity. To sum up, the subject/object border is neither clear-cut nor given, but negotiated among the participants and indexicalized in the game activities.

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