Learning by Hearing?
To my family
Learning by Hearing?
Technological Framings for Participation
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Abstract


This thesis examines technological framings for communication and identity issues, with a particular focus on Swedish mainstream schools where children with cochlear implants are pupils. Based on a sociocultural perspective on learning, the thesis focuses on how pupils and teachers interact with (and thus learn from) each other in classroom settings. The study comprises a) a sociohistorical analysis of three Swedish non-governmental organizations’ periodicals from 1891 to 2010, and b) an ethnographic study including micro-analyses of interaction in two mainstream classrooms where there are children with cochlear implants.

The sociohistorical analysis illustrates how different technologies, in a range of ways, have shaped (i) how people with hearing loss communicate and interact with others and (ii) their identity positions. The analysis also demonstrates the presence of language ideologies in settings where children with hearing loss are taught. Here the main preference is for spoken communication, even though different types of visual communication emerge during the 1980s and 1990s. In addition, the issue of integration has been a matter of debate since the 1970s and provides a backdrop for the current situation, where an increasing number of children with cochlear implants receive their schooling in mainstream public rather than segregated regional deaf schools.

Against this background, micro-analyses have been carried out of classroom interaction and recurring patterns and activities have been identified. The results illustrate that audiologically-oriented and communicative-link technologies play major roles in the classrooms and these both facilitate and limit the pupils’ participation. Based on postcolonial theory, the results can be understood in terms of participation and non-participation of the pupil with cochlear implants, who acquire peripheral identity positions in these classroom settings. The analysis also illuminates unequal power relations regarding technologies in use, and expressions of language ideologies in the classrooms, where spoken communication is preferred. Overall, the everyday life of children with cochlear implants in mainstream schools appears to be complex, and it is technologies in use that frame the conditions for their participation in interaction and communication.

Keywords: Cochlear implants, deaf, mainstream, participation, communication forms, communities of practice, ethnography, sociocultural, postcolonial, language ideology.

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No one ever said it would be easy. But nor did anyone warn me that it would be so difficult. It has been a long and often very lonely journey that is now coming to an end. This thesis is the result of five years of doctoral studies, where I have stepped into a whole new world. My doctoral studies have helped me develop as both a researcher and a human being, and have given me new perspectives on research as well as everyday life. During this journey, I have had one person in front of me who has constantly kept herself far away, with her hand stretched out, in order to make me strive a little more and muster the strength to reach new goals, but who has, when needed, also remained close enough to take a step backwards to stop me from falling. Thank you, Sangeeta Bagga-Gupta, my supervisor for these five years, for all the challenges, all the support and your unwavering belief in me throughout my journey. It has been invaluable.

I have also had the privilege of having an assistant supervisor who has always taken time to answer my questions and read my texts, and has, without fail, provided accurate and informed comments that have helped me further in my work. Thank you, Richard Jonsson, for invariably managing to get “the penny to drop” for me so that I could improve my texts, and for broadening my horizons into areas I had not previously visited.

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I dedicate this thesis to my family. Linus and Elin, in recent years, your mother has been sitting with her nose in books and her eyes glued to a computer screen a large part of our time together. I may often have been physically present but mentally absent. The times we spent together when I
was forced to put away my work have been like a balm for my soul and have reminded me that there are other more important things in life than a thesis. I hope that from now on I will once again be a mother who is more mentally present. Thanks for all your patience.

Roger, no one has meant more to me than you throughout this journey. You have been there for me when I have sometimes been a wreck; you have patiently listened, and have been close at hand in all sorts of ways. You have been the safe haven to which I have always sought refuge when I have felt that I have needed to. You have given me time and space and not once have you complained or asked me to prioritize differently. You are my rock. Thank you for being who you are!
Introduction

We went outside and she turned to me, and touched my hand before she signed: “I was also deaf a long time ago”. I smiled back, asking, “And now?” Her eyes briefly met mine and she shrugged her shoulders, “I am not deaf any more”. Then she turned away from me and, without looking back, ran across the school playground to play with her classmates (Field diary, spring 2011).

This is a thesis with a particular interest in what everyday life in Swedish mainstream schools can be like for deaf children with cochlear implants. The number of children who have a mainstream school placement has increased during the 2000s, while the number of pupils in deaf schools has dropped. The aim here is not to draw any general conclusions about what it is like for all children with cochlear implants who have this type of school placement; however, with archival research and case studies, we can, from different perspectives, broadly get an idea of the role of technologies in deaf communities and of the everyday school lives of children with cochlear implants.

Historically, deaf pupils in Sweden have been taught in segregated deaf schools, but today when the number of pupils with cochlear implants at such schools is decreasing, questions can be raised regarding how prepared public schools are to receive such pupils. It is not just about adapting the acoustics and putting in various kinds of resources, but also about creating an accessible learning environment for the pupils. The teachers need to know how they can teach in a way that works both for the pupils with cochlear implants and the others in the class. Another question that may be raised is how aware and prepared the other pupils are that one of their classmates has hearing loss, with all that it entails in terms of adaptations and resources invested. Finally, one can ask how prepared the pupils with cochlear implants themselves are in respect to all these things, and how they view their typical school day. The questions posed here are only a

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1 A cochlear implant is an advanced hearing aid consisting of an outer part that looks like a kind of hearing aid with an added magnetic headpiece, and an internal part that is surgically implanted in the inner ear.

2 In this thesis, I will use the term “deaf school” when referring to the segregated school for the deaf, instead of “special school for the deaf and hard of hearing,” the contemporary term in Sweden today. The reasons are twofold: 1) In Sweden, the concept has varied during different periods, and 2) the term “deaf school” is commonly understood and used in international literature.

3 In this thesis, I will use the term “public school” for the municipal schools in Sweden.
couple of many, but there are even fewer answers because there is a lack of research on this type of classroom. The aim of this thesis is to contribute to increasing knowledge and understanding of the role of technologies in deaf communities in general and in everyday life in mainstream schools for the interaction and participation of pupils with cochlear implants more specifically. I have done this by both analysing archival data over time and using micro-analyses that examine specific actions and patterns in two Swedish classrooms where one pupil in each uses cochlear implants. Such micro-analysis of particular features may contribute to a comprehensive and general understanding of everyday classroom life.

The cochlear implant is a relatively new technology that adults in Sweden have been using since the 1980s and children since 1990 (Jacobson 2000). The technology has resulted in people with more severe hearing loss or deafness being able to perceive sound in varying degrees. Nevertheless, the introduction of cochlear implants has been fraught with difficulties and conflicts. This technology has internationally been advocated by certain groups in society and rejected by others at various times since the early experiments in the 1950s. What forms of communication are to be used in interaction with people with cochlear implants and the age of implantation has also been the subject of heated discussions. However, this thesis has its origins in contemporary Swedish society, where most children who are born deaf receive cochlear implants when they are very small, and where they increasingly receive their education in mainstream schools. It also problematizes various patterns and activities appearing in the studied settings and has a postcolonial approach to what is considered “normal”.

The starting point of this thesis is a sociocultural perspective which highlights that learning takes place in social interaction with others, whether in the school, the home or in the playground. Thus, learning is mainly about participating in social practices and not about collecting information or skills. In such participation in interactions and social practices, communication is an important part. It is by communicating with others that we develop and can share thoughts and experiences. Communication, however, covers much more than what is expressed through spoken language only; it is also about what we can perceive visually, such as how we dress, our expressions of emotions and our behaviours and attitudes. Further-
more, there are visual language varieties, e.g., Swedish Sign Language, and mixtures of different forms of communication, e.g., talking and signing simultaneously. In addition, communication also includes lip-reading. These visual forms of communication afford opportunities for participation for people with hearing loss, who can have difficulty in noisy settings or in practices where a spoken language is the main form of communication. But such visual communication is not always promoted, and if the spoken language variety becomes highlighted as the norm, or is the primary means of communication, while the visual communication is in different ways reduced and made invisible, it can be seen as an example of a post-colonial language ideology that may affect individuals with hearing loss in various ways.

The main title of this thesis is Learning by hearing? and should be read as a problematization of the fact that after giving deaf children cochlear implants, it is often generally assumed that because the child can, with the help of this technology, perceive sounds, it is primarily by using their hearing when interacting with others that their learning will take place. The title also indicates that I take a critical perspective on what is regarded as “normal” in communication and interaction.

In light of the discussion above, cochlear implants can be understood as a revolutionary technology of great significance (in different ways) for deaf people, their families and their schools. But there are also many other auditory technologies that are used and managed in environments where people with cochlear implants (and other people with hearing loss) are participants. The development of these various kinds of auditory technologies has, like other technologies, been going on for a long time, and they have in different ways influenced the opportunities for people with hearing loss to communicate with others. The link between people with hearing loss, their forms of communication and various technologies is dynamic and constantly changing, as are people’s perceptions of how technology can, and should, be used, and for what purposes. Against this background, this thesis is particularly interested in how different technologies have over time related to, and interacted with, people, and how they can and have shaped in various ways communication and interaction issues.

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4 Swedish Sign Language is a sign language used in Sweden. In the first part of this thesis, I will use this concept when referring to it, and I also do the same in the case of other countries’ sign languages. However, I use the concept Signed Language/-s when generally talking of different countries’ sign languages, and when I refer to the modality, the use of signs, just like that of written text, speech, etc., I will use the concept sign language(s).
The changing discourses that technologies have introduced into the deaf field can also be understood through historical voices. This thesis does this with the help of articles from periodicals published by three Swedish non-governmental organizations (NGOs). Analysing these articles gives a larger context to issues of normality, forms of communication and technologies over time and the issues can be further problematized and understood as constantly recurring topics. Together the articles also show that technologies and language ideologies affect deaf children’s positioning and identity formation, both historically and in contemporary classrooms, and they frame the specific focus of this thesis on the interaction and participation of children with cochlear implants in mainstream settings.

**Study aims**

The main aim of this thesis is to examine how people in interaction use technologies and how it shapes over time conditions for communication and identity positioning in the everyday lives of people with hearing loss. In this research analysis, a particular focus is on the interaction and participation of pupils with cochlear implants in mainstream school settings. The empirical data comes from two different types of material: a) three Swedish NGOs’ periodicals for examining the more general and sociohistorical issue of the main aim, and b) two mainstream Swedish primary school classes for studying the particular focus on pupils with cochlear implants.

Based on the overarching aim, the following more specific issues will be examined:

A. What kinds of technologies are particularly prominent in the periodicals and classrooms, and how are they handled and used over time?

B. What forms of communication occur and are preferred in the periodicals and classrooms, and how have they changed over time? What language ideologies can be found in the material, and how do these affect the everyday communication in the classrooms studied?

C. How do the technologies and forms of communication in use enable or limit the interaction and participation of people with hearing loss in different communities of practice, particularly pupils with cochlear implants in classrooms?
D. How do the technologies and forms of communication in use shape the identity positioning of pupils with cochlear implants in classrooms?

These issues will be answered in the thesis’s four studies, which cannot be considered separate from each other because the issues recur in different ways in them all. However, in Study I (Holmström & Bagga-Gupta 2013), the main focus is on the archival data from the three NGOs’ periodicals, analysing communication, identity and technology issues from a sociohistorical perspective. Study I examines issues A, B and C and constitutes a background to the following three studies in this thesis. In Study II (Holmström submitted), the sociohistorical analysis of the archival data continues with a focus on the prominent school issues and themes over time in the NGOs’ periodicals. In the latter part of Study II, these issues and themes are, by analysing the interaction data, put in relation to the contemporary mainstream school placement of children with cochlear implants. Overall, Study II mainly examines issues B, C and D. In the last two studies, Studies III (Holmström & Bagga-Gupta submitted) and IV (Holmström, Bagga-Gupta & Jonsson submitted), the focus of interest is entirely on the classroom settings. This is done through analysing interaction data and examining all the issues, A, B, C and D, from different perspectives. The four studies will be further described below in the section The studies.

Thesis structure

This thesis consists of two parts. This first part begins with an introduction followed by the study aims. In the next section, The research field, I will present the findings from a quantitative survey of the research field in order to position my thesis in relation to other research. Thereafter, in Complicated relations – technology vs. the Deaf community, I give a background description of the cochlear implant technology’s development and its coming together with the Deaf community\(^5\) in order to put the thesis in a context. Then, I turn to the thesis’s theoretical framework in Becoming a member in a community – learning, participating and identification, and describe the sociocultural perspective on learning that the thesis is based on. I here focus on the concept communities of practice and discuss issues

\(^5\) The concept “Deaf community” will be discussed and explained below in the section The Deaf community – a community of practice.
of power and ideology within these. After describing the theoretical points of departure, I turn to the thesis’s methodological approach and describe in *The creation of empirical data* how the data has been produced. Thereafter, I briefly present the four studies and how they relate to each other and to the thesis as a whole. Finally, there is a discussion section entitled *Learning by hearing?* where I explore the findings of the studies and connect them to the thesis’s issues at large. The first part ends with a brief synopsis and a Swedish summary. In the second part, the four independent studies are presented in their entirety.
The research field

The aim of this section is to position my thesis in relation to other research. The thesis has as its overarching interest the role of technologies in deaf communities in general over time, with everyday life in school and classroom interactions in focus specifically. Internationally, there is considerable research in the field focusing on deaf people from different perspectives and examining development historically. Primarily, the historical research of specific relevance to this thesis (e.g., Blume 2010, Domfors 2000, Ladd 2003, Pärsson 1997, Simonsen 2003, 2005) is presented and used below in the background section, Complicated relations – technology vs. the Deaf community.

The empirical data in this thesis is created by an ethnographic approach where I have both examined archives and followed two classes during their school day. Regarding the latter, this thesis can be positioned within a tradition of classroom research. But I do not only focus on the classroom, but also follow the pupils during their breaks and sometimes even during their leisure time. Sahlström (2008) has written an overview of classroom research over the past four decades, and clearly defines what is included: research on what happens in the classroom and not on the breaks or leisure time. This partly distinguishes this thesis from the research Sahlström covers. In his overview, Sahlström primarily includes classroom research with an interactional orientation, where also studies with an ethnographic approach are conducted; in this respect, this thesis can be placed in the same “group”.

In order to more clearly position the classroom study in relation to other, predominately educational, research, I have conducted a quantitative survey using three main databases: 1) ERIC (Education Resources Information Center), one of the world’s largest digital libraries specializing in educational literature, 2) Web of Knowledge, a research platform that provides access to the world’s leading citation databases, and 3) SwePub, a Swedish scientific search service for publications from Swedish universities. There are pros and cons of using databases. One of the pros is that you can quite easily get an idea of how much international and national research has been conducted in different areas with varied foci. One of the cons is that databases cannot give a definite answer to what, for example, a thesis mainly focuses on just because the keyword is among the words connected to it, and it is hard to find out whether there are duplicates, etc., when there are a large number of hits. Although the number of hits, therefore,

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6 See more below in the section The creation of empirical data.
should not be understood as absolute or statistically assured, they can give us an idea of how common different kinds of research methods, approaches or foci are. In Figure 1 below, the keywords used in the various database searches and the number of hits are illustrated.

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I began searching the databases by using the keywords *classroom research*. This was to get an idea of how widespread such research is both nationally and internationally. Figure 1 shows that the keyword search generated many hits, but as Sahlström (2008) puts it: “Despite the seemingly handy concept ‘classroom research’, ‘research’ done in classrooms today is not a sufficiently cohesive selection principle to coherently present and discuss classroom research more precisely” (p. 11; my translation). Therefore, because authors do not always explicitly write or mention that they have conducted classroom research, I instead tried to search using the keyword *classroom*, which generated a much higher number of hits, indicating that there is considerable international research with an interest in classrooms in different ways and from varied perspectives. The results of the two searches are also supported by Sahlström, who mentions that international classroom research is very extensive. He argues that most of the classroom research conducted today is framed by socially oriented perspectives on learning, socialization and education, but in recent years there has also been an increase in the number of conversation analytic studies of classroom interaction. Moreover, a number of classroom research’s best-known results focus on the structure and distribution of participation in interaction.7

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7 For more in-depth and comprehensive overviews of classroom research, see also Sahlström (2008), Granström and Einarsson (1995), Cazden (1986).
Having done that, I then searched for research with a similar methodological approach to mine, and used the keyword *ethnography*, which resulted in considerably fewer hits in comparison to the first two searches. One interpretation of the results is that research with an ethnographic approach is not as comprehensively widespread. However, after this search, I combined the keywords *classroom* and *ethnography* to see how widespread this research is. The result showed a much lower number of hits than could be expected, and, therefore, these results need to be taken with caution. In Sweden, educational research with an ethnographic approach is growing (see, e.g., Larsson 2006), but, nevertheless, SwePub generated only thirty-six hits in total, of which twenty are dissertations (e.g., Bergqvist 1990, Hultin 2006). However, from my own knowledge, I can see that several titles are missing in this list (e.g., Jonsson 2007, Skoog 2012). It could be that the authors of these texts have not explicitly called their research ethnographic. Anyway, the total number of hits in the three databases indicates that the combination of classroom research and an ethnographic approach is still not so widespread internationally and nationally.

After these more general searches, I then focused on the thesis’s particular interest: children with cochlear implants. First, I conducted a comprehensive search for *cochlear implants* to get an idea of how widespread the research on this theme is and in which areas. It turned out that medical research on cochlear implants is the most common, according to the results from Web of Knowledge, where “otorhinolaryngology” tops the list with 4071 out of 6222 hits, followed by “audiology, speech-language pathology” with 1668 hits and “neurosciences” with 1375. “Education educational research” comes eleventh with only 203 hits. If one looks at where research on cochlear implants is conducted, the United States tops the list with 2818 hits, followed by Germany with 681, Australia with 523 and England with 518. Sweden is in fifteenth place with 99 hits, while the other Nordic countries are further down the list; Finland ranks twenty-second with 38 hits and Denmark and Norway in joint twenty-fifth place with 25 hits each.

In Sweden, I have found a total of six doctoral dissertations that focus on cochlear implants. This was discovered by supplementing the search in the above databases with the search services available in Libris and DiVA; both the English and Swedish term were used. None of them are education theses: three are in the field of medical science (Asker-Árnason 2011, Ibertsson 2009, Wass 2009), one is a technology thesis (Stadler 2009), another a social work thesis (Andersson 2001) and another a sociology thesis (Jacobson 2000). I also did a search in the other Nordic countries (except Iceland) and found in Norway three dissertations with a focus on
cochlear implants, but not a single one in Denmark or Finland. Since various ways and additional databases were used to find the six in Sweden, it is quite possible that there are dissertations in both Finland and Denmark and more in Norway, but they have not come up in the searches I have done, despite having supplemented the searches with the following databases: the Norwegian Bibsys, the Danish bibliotek.dk and the Finnish Fennica.

After this overarching search on cochlear implant research, I then examined how widespread the research is that combines the keywords *cochlear implants* and *classrooms*, which produced an even smaller number of hits, as shown in Figure 1. Using these keywords does not guarantee that the research found is educational even if it is conducted in and outside classrooms, but it contributes to our knowledge of children with cochlear implants and their school situation. The review of the results indicates that many studies are based on interviews and questionnaires and not on interactional data. One such study was conducted by Hyde and Punch (2011), who used questionnaires sent to parents and teachers to find out about their expectations and experiences regarding the children’s communication and their educational and social environments. The researchers received a total of 247 responses from parents and 151 from teachers, and from this they conducted in-depth interviews with 27 parents and 15 teachers. In addition, they interviewed eleven children aged between 10 and 17. Overall, the study found that 58.6% of the children attended mainstream schools where they usually, to some extent, get support from teachers for the deaf. The focus of Hyde and Punch’s study is on the children’s communication and the role of Signed Language in their lives, both in and outside school. The study’s results show that children, to a great extent, primarily used spoken communication, but various forms of sign language were used by different children to varying degrees depending on the current situation. For example, many children were reported to use sign and speech simultaneously in communication, and some also used a Signed Language. Moreover, the parents and teachers stated that they themselves used to some degree signs because they enable and facilitate communication with the children. Several other questionnaire- or interview-based studies are, like Hyde and Punch (2011), interested in communication issues and modes of communication, and show similar findings (e.g., Punch and Hyde 2010, Sume 2010, Watson et al. 2008, Wheeler et al. 2007). These researchers’ results are of interest to my thesis and have been a useful complement to it. Even if these earlier pieces of research are primarily based on the informants’ own statements and not on what takes place in classroom interaction, they contribute to knowledge of everyday life as seen from the narratives of
teachers, parents and sometimes children and adolescents with cochlear implants.

Other studies on children and adolescents with cochlear implants have been interested in different academic achievements, and have made comparisons with other groups of pupils (hearing or deaf). For instance, Dillon et al. (2012) found that in their study approximately two-thirds of the children with cochlear implants performed at or above the level of their hearing peers when it came to phonological awareness and reading tasks, while Geers et al. (2008) found that in their study the majority of high school students with cochlear implants had not achieved age-appropriate reading levels. Spencer et al. (1997), in turn, noted that in the past children with cochlear implants had achieved higher reading levels than deaf and hard-of-hearing children, and Thoutenhoofd’s study (2006) shows that there is generally a gap between Scottish students with cochlear implants and hearing students regarding academic attainment, but the gap was smaller than the one between profoundly deaf Scottish pupils without cochlear implants and hearing students. In sum, the studies demonstrate that students with cochlear implants are higher academic achievers compared to deaf students, and they are an important contribution to the knowledge about students with cochlear implants in mainstream school settings.

However, none of the above uses an ethnographic approach and, therefore, I searched more specifically for such research in the databases, combining the keywords *cochlear implants* and *ethnography*. This combination did not generate any hits at all, and nor were there any when the keyword *classroom* was added. This finding confirms the insight that emerged during my work: there is a lack of research with the same approach and starting points as in this thesis. I have searched for literature, read articles and reference lists, talked with scientists in the deaf and hard-of-hearing field and have numerous article searches, but have only found one report (Simonsen, Kristoffersen & Hjulstad 2009) and one article (Jachova & Kovacevic 2010) with similar starting points and focus. Simonsen, Kristoffersen and Hjulstad’s study (2009) is a follow-up to an earlier study in a kindergarten setting. Using an ethnographic approach, they examine communicative practices in different school forms where pupils with cochlear implants participate. They found that how communication and participation were organized, regulated and maintained in different school settings varied greatly. The main difference between their study and mine is that theirs was conducted in several school forms, not only in mainstream schools, and many of the teachers (but not all) could use Signed Language to some extent. Their results were, however, a useful starting point for my
analysis. Jachova and Kovacevic (2010) also adopt an ethnographic approach and focus on the interaction in a mainstream class where one pupil has cochlear implants. They note that the article is only a short report from a larger study, but I have not found any publication from their larger study. In the article, Jachova and Kovacevic argue that teachers need training and professional development to teach pupils with cochlear implants and observe that the children themselves face different challenges in school. However, the article primarily aims to give advice to teachers, and does not describe in-depth the data and findings from the classroom interaction.

Since cochlear implants are still quite a new hearing technology, I wanted to supplement the above survey by replacing the keywords cochlear implants with *deaf*, *hard-of-hearing* and *hearing impaired* to learn whether similar international research has been conducted on groups of children like the one I focus on. In Sweden, educational research focusing on children with hearing loss is not widespread and relatively few educational-based studies have been conducted (see also Bagga-Gupta 2004a). This does not mean that there is no research which takes as its starting point the schooling and education of this group. For example, Bagga-Gupta (2002a) examines everyday communication, learning and achievement in Swedish deaf schools by using empirical data from classrooms in three deaf schools and from the Swedish National Upper Secondary Schools for the Deaf, using ethnographic approaches in the late 1990s. Allard (2013) is another example of an ethnographic study of a Swedish deaf school, with particular focus on multilingual language instruction with Swedish Sign Language as a mediating tool. However, neither Bagga-Gupta nor Allard study mainstream school settings, so even if their studies are important for understanding interaction in instructing deaf pupils, it is hard to draw parallels to my study. Other Swedish research in this field has primarily other starting points, e.g., psychological (e.g., Ahlström 2000, Preisler, Tvingstedt & Ahlström 2003) or linguistic (e.g., Schönström 2010, Svartholm 2010).8 Also international research with a similar starting point and focus as this thesis (but concentrating on deaf and hearing-impaired pupils) is limited (see Figure 1). However, one scholar who has conducted research in mainstream school settings using an ethnographic approach is Ramsey (1997). She creates her data from a school, which she calls Aspen School, where she stayed as a participating observer during one academic year. She used a video camera to document what went on around three deaf students and the adults who taught them. Ramsey argues that her book is different from traditional reports on deaf education because it does not evaluate and as-

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8 For an overview of the research in the field, see Bagga-Gupta (2004a).
sess individual deaf children’s achievement and educational outcomes. Instead, it is a descriptive study of everyday life in a mainstream school programme for deaf and hard-of-hearing students. She highlights various aspects of the school placement and the environment students are in, and describes the different consequences this kind of school placement may have for the deaf students. For example, Ramsey shows that pupils are often treated as if they are hearing, but when they do not behave as hearing pupils, they are considered deviant and distracted, e.g., when they look at the interpreter instead of the teacher. Often the teachers of the deaf who worked closely with these students had to give reprimands or instructions, and it was these teachers and the Signed Language interpreters who tried to “educate” the teachers and other staff on how to deal with deaf pupils. Another issue that Ramsey highlights is that the interaction and communication with the hearing classmates was considerably limited for the deaf pupils. The same phenomena are shown by Ohna (2005), who uses data from the Norwegian Research Council’s “Evaluating Reform 97” project, where two researchers participated in ten different classes in both mainstream state schools and in a school for the deaf. He also demonstrates that the pupils usually interact with teachers and receive explanations from them rather than interact with their hearing classmates. Keating and Mirus (2003) particularly focus on the interactions between deaf and hearing pupils at two mainstream schools during their lunchtime and breaks, and report similar findings; the interaction between the deaf and hearing pupils is quite restricted; communication is short and based on the current contexts; and there are often misunderstandings. Ramsey (1997), Ohna (2005) and Keating and Mirus (2003) take deaf pupils as their starting point, but parallels can also be drawn to hard-of-hearing pupils in integrated mainstream settings. For example, Tvingstedt (1993) shows that many hard-of-hearing pupils themselves experienced that they did not have the same opportunities to participate in social interaction and their relationships with hearing peers was limited. Bagga-Gupta (1999) presents an analysis of the mundane interactional patterns of hard-of-hearing pupils’ lives in a mainstream school in Sweden, through the analysis of 19 videotaped recess breaks. Her study also clearly shows the marginalized position of these pupils. Other studies have focused particularly on interactions between deaf pupils and adults in the classroom, both in deaf schools and in mainstream settings (see, e.g., Erting 1988, Mather 1987, Shaw & Jamieson 1997). For example, Shaw and Jamieson (1997) study one deaf child in an integrated mainstream setting and find that he predominantly interacts with his interpreter and is given more instructions from her than from the
teacher, which indicates that the mainstream school placement has specific outcomes for deaf pupils participation in the general classroom interaction.

Taken together, it is not entirely simple to transform the knowledge from previous research on deaf and hard-of-hearing children to children with cochlear implants in the studies presented in this thesis’s studies because they have other starting points, other forms of support and individual placements in mainstream school settings, unlike many of the children in the research described above. Nevertheless, this previous research provides a useful background to this thesis as a whole, together with the historical research mentioned above and previous research on classroom and classroom interaction (e.g., Granström & Einarsson 1995, Lindblad & Sahlström 2001, Jackson 1969/90, Sahlström 1999), learning in communities of practice (e.g., Hellermann 2008, Lave & Wenger 1991, Wenger 1998, Wenger et al. 2002) and studies on language ideologies (e.g., Irvine 1989, Irvine & Gal 2000, Kroskrity 2010, Milani 2010, Milani & Jonsson 2012, Woolard & Schieffelin 1994). Overall, this research provides opportunities to examine and understand the empirical data in this thesis against a larger context and connects it to other fields.

Summary

In this section, I have examined previous research conducted in the same field and with similar points of departure as in this thesis. Based on the specific interest in children with cochlear implants, the review shows that it is principally medical research that has been conducted, and research focusing on classrooms where there are children with cochlear implants has mainly been conducted using surveys and interviews, and not ethnographic approaches. This means that these studies are primarily based on what the informants express in terms of their own experience and opinions, and not what actually takes place in the classroom, in contrast to what this thesis does in Studies II (Holmström submitted), III (Holmström & Bagga-Gupta submitted) and IV (Holmström, Bagga-Gupta & Jonsson submitted). The knowledge that previous research contributes to is, however, interesting to relate to in our studies.

Because the review in this section has shown that there are few studies similar to ours that focus on children with cochlear implants in mainstream school settings, I have also surveyed ethnographic research in classrooms with deaf and hard-of-hearing pupils. In doing so, it became clear that there are several studies on these children, conducted in deaf schools and special settings (that are different from mainstream school settings). The few studies found with an ethnographic approach that focuses on mainstream school settings provide important knowledge of various aspects of
school life for deaf and hard-of-hearing pupils. However, several of these studies are not about individually integrated children, but about several deaf and hard-of-hearing children in the same class, who often receive instruction in smaller groups and use interpreters or special education teachers when they are in the whole class. So even if the findings are important and interesting to consider when examining the empirical data in this thesis, these studies differ from ours in several ways.

Overall, the review clearly shows that there is little research in the field that I can incorporate, use and relate to in respect to the results found in this thesis’s studies. This suggests that the research reported here is groundbreaking in Sweden and, in several aspects, also internationally. Therefore, it is even more important to utilize previous studies with historical perspectives in the field and also research on classroom interaction, learning in communities of practice and language ideologies, to put the empirical data in a broader context. However, in light of the picture painted in this section, this thesis can be considered an important contribution to increasing knowledge of the everyday school lives of children with cochlear implants.
Complicated relations: technology vs. the Deaf community

As mentioned earlier, cochlear implants are a relatively new technology that provides deaf and severely hearing-impaired people the possibility to hear sounds, and has been used in Sweden since the 1980s. This technological development has led to a coming together between new technology and deaf people, which has not been entirely unproblematic, and even today it can arouse strong emotions and reactions from different groups of people, not only in Sweden but also internationally. These feelings and reactions can be difficult to understand for those not familiar with the field, but an understanding of this coming together of deaf people and technology and of the discourses it resulted in gives a context to this thesis as a whole and, therefore, I will begin with a background description of precisely that in the following.

A new technology emerges

As long as there have been deaf people, there have also been ideas about how to cure deafness. Many experiments have been carried out for this purpose (see, e.g., Eriksson 1993, Lane 1999) and as early as the 1800s, electrical experiments were carried out in an attempt to “revive” deaf ears (Blume 2010).

The first surgery in modern times to electronically stimulate the nerves in the inner ear was performed in Paris in 1957 by Charles Eyries, who wanted to give a patient his hearing by implanting an electrode in his ear. Over the following decades, surgical experiments continued around the world, primarily in the United States, Australia and Europe, the results of which varied greatly and the attempts were met with strong opposition from much of the scientific community because they were very experimental and entailed serious risks to the patient (Blume 2010, Christiansen, Leigh & Spencer 2002).

From the late 1970s onwards, medical technology was further developed by different groups around the world, all of which had received scientific, medical, technological and financial resources. They also had resources to manufacture, and, more crucially, had volunteers who were prepared to receive the implants (Blume 2010).

This development, however, was very slow, mainly due to the costs involved in the surgeries. Only a few deaf people were able to fund the surgeries themselves, and the health authorities in different countries were not prepared to pay for them either. Economic reasons were not the only cause behind the slow development. Deaf adults were surprisingly uninterested
in, and not excited at all, about the new technology because they did not identify with it (Blume 2010, Cherney 1999). This eventually led to the industry’s shifting its strategy: “This failure of deaf people to identify with the technology provoked a strategic move on the part of the implant industry that was to change the rules of the game fundamentally” (Blume 2010, p. 52).

To increase the interest in surgeries, the industry turned its attention from deaf adults to deaf children. The first surgery on a child was performed in France in 1977, but strong reactions meant further surgeries on children were not carried out until the latter part of the 1980s, when the industry renewed its interest (Blume 2010, Christiansen, Leigh & Spencer 2002).

The results of implant surgeries on children varied, but the medical profession continued to perform them. This resulted in protests by deaf adults around the world against such surgeries (Blume 2010, Cherney 1999). They felt that it was not wrong to be deaf; people may be happy as they are, and there were so many other things that should be done for the deaf instead of surgeries (Christiansen & Leigh 2002). But “[d]espite the references to deaf children’s quality of life, to their cognitive, linguistic, and social development, and to educational placement, the benefit of the implant was initially assessed by means of audiological tests” (Blume 2010, p. 142). The surgeries, therefore, continued to increase in number, and by January 2010, about 150 000 people around the world had received cochlear implants, of which more than half were children (Giezen 2011).

A collision between two discourses

For at least half a century, the Deaf community has regarded itself as a cultural and linguistic minority rather than a disability group (see, e.g., Cherney 1999, Christiansen & Leigh 2002, Hjulstad 2003, Lane, Hoffmeister & Bahan 1996, Simonsen 2003). The move towards a more cohesive Deaf community is often considered to have begun when William Stokoe started researching American Sign Language in the 1960s, but also other social science and Signed Language research conducted from this decade onwards contributed to this development (see, e.g., Higgins 1980, Lieth 1971). Such research was the starting point for a development whereby different Signed Languages around the world gradually began to be recognized as fully fledged language varieties. People in different societies recognized that deaf people used Signed Language to communicate with others, including hearing professionals and family members, in their environment, something that had not been accepted previously. These new recognitions, along with deaf people’s historical experiences, brought them
together to form a stronger Deaf community during the 1970s and 1980s (see, e.g., Blume 2010, Hjulstad 2003, Moores 1987, Padden & Humphries 1988).

Sign language, once a symbol of oppression, has become transformed into a symbol of unity, giving dignity to the Deaf community. Sign language has allowed Deaf people to match the skills and abilities of hearing people in communication and cognition and has enabled them to build an empowering community: it has enabled Deaf people to create their own sense of “normality” (Baker 2010, p. 155).

The emergence of a unified Deaf community during the 1960s and 1970s happened around the same time as the medical profession’s interest in the new technology, i.e., cochlear implants, was growing. But initially the two discourses had very little to do with one other, operating more or less independently in parallel. But when the Deaf community finally encountered the medical profession and its industrial allies, there was an inevitable collision (Bagga-Gupta 2007, Blume 2010, Christiansen, Leigh & Spencer 2002, Lane, Hoffmeister & Bahan 1996). The medical discourse that wanted to surgically give deaf people the opportunity to hear was advocated by mostly (hearing) professionals, while the second discourse, which emphasized a common deaf culture and national Signed Languages, originated in the Deaf community. These competing discourses, therefore, had conflicting viewpoints, assumptions, goals and values regarding communication and deafness (Blume 2010, Hjulstad 2003, Jacobsson 2000, Lane, Hoffmeister & Bahan 1996, Simonsen 2003). However, it soon turned out that the medical profession, supported also by the mass media and its description of the cochlear implant as “a miracle”, was stronger. The Deaf community failed to assert its interests:

The demands of Deaf community leaders and advocates had little or no effect either on development of the cochlear implant or on the beginnings of local implantation practices. The experience of deaf people was not accepted as essential or even relevant. […] The significance of the Deaf community’s failure to influence the development and spread of cochlear implantation lies here. It points to the limits imposed on empowerment and suggests that patient groups can gain acknowledgment and influence only insofar as their demands are compatible with certain fundamental assumptions of medical science, medical authority and the consumption of medical goals and services (Blume 2010, p. 197).

The lack of understanding the Deaf community encountered from many professionals and other groups in society because of its opposition to implant surgeries led to strong expressions of emotions:
For many members of the Deaf community, the issue of cochlear implants has been fraught with trepidation, anger, frustration, and outright rejection of the concept that surgical insertion of an auditory device is required to restore a sense that is ‘missing’. A good number of these members saw it as an attack on a ‘visual way of living’ and on their signed languages. They also feared the loss of their culture, a culture that has been around for centuries, one that was only formally acknowledged as a bona fide culture in the latter half of the 20th century (Paludneviciene & Leigh 2011, p. vii).

The Deaf community’s reactions to cochlear implants were partly due to the members perceiving the surgeries as oppression – that it was not “good enough” to be deaf (see, e.g., Cherney 1999, Christiansen & Leigh 2002, Lane, Hoffmeister & Bahan 1996). Other reasons for the reactions were a concern that the deaf children who underwent surgery would not learn Signed Language, deaf culture would be undervalued and there were medical risks, etc. (Christiansen & Leigh 2002, Lane, Hoffmeister & Bahan 1996).

Gradually, however, the Deaf community accepted the implants, and today many deaf adults have chosen to be operated on so as to take advantage of the technology while continuing to use their Signed Languages and participate in the Deaf community (Christiansen & Leigh 2002). But the concern for small children who undergo surgery remains.

**Either signed or spoken communication – or both?**

Despite the Deaf community’s concerns (as described in *A collision between two discourses* above) about what deaf children’s lives will be like after cochlear implant surgery, the number has continued to increase around the world. The primary goal of such surgery is that children shall have the opportunity to develop spoken language (Christiansen & Leigh 2002, Fjord 1999, 2003, Giezen 2011, Hyde & Punch 2011, Paludneviciene & Harris 2011). Research has shown that the younger the children are when undergoing surgery, the better the results they achieve regarding speech acquirement and understanding (Christiansen & Leigh 2002, Giezen 2011). This has meant that the ages of those who have undergone surgery has decreased, and today most deaf children born in the Global North receive implants in their first year of life (Kermit 2010).

When parents are informed that their child is deaf, they often have to make difficult decisions, e.g., determining whether their child shall undergo surgery or not. A study by Christiansen and Leigh (2002) focuses on families that have chosen cochlear implant surgery, examining the parents’ experience of their and their children’s situation, the basis for their decisions and what their implications and consequences were. The findings of
the study show that the parents had made their decisions based on the hope that their children’s lives would be easier with cochlear implants, especially when the child interacted with the larger society, because the children could learn spoken language. But soon became evident that it was not always that simple; many of the parents said that several years after their surgery, the children continued to perceive familiar voices, had difficulty hearing what strangers said, and it was hard for them to understand any speech at all in noisy environments. Overall, the study shows that the vast majority of the children needed visual support such as lip-reading or sign for communication and they, therefore, often find it difficult to talk on the phone and it can be hard to understand oral talk on TV without subtitles.

However, cochlear implant technology has continued to develop and has improved during the 2000s. In addition, children have been operated on at younger ages, and bilateral implants have increased. Therefore, it is currently not possible to draw the conclusion that Christiansen and Leigh’s survey (2002) is valid for the contemporary context, but the study, nevertheless, provides a picture of how parents up until the early 2000s experienced their lives and those of their children with cochlear implants.

Other researchers have also concluded that children with cochlear implants need visual support in communication. Moree (2011) argues that “visual support of receptive language processing appears to provide vital additional cues to the intent, as well as words, of the speaker” (p. 122). She also mentions that cochlear implant users who become deaf after having developed spoken language have to actively investigate whether each sound they hear is a speech sound or not, and then perform a phoneme-level analysis of it. Only then can they determine whether the sound is a word or not, and in comparison to hearing people’s hearing, the implant is a designed stimulus that is very sensitive to sound. It is therefore difficult for cochlear implant users to filter out different sounds, especially speech sounds, and consequently it can be problematic for children in a public school if the auditory environment is poor. Hence, the cochlear implant user needs visual support to function properly, Moree claims.

But despite different researchers’ emphasis on the importance of visual support for children with cochlear implants, it is not obvious that the children are able to acquire the national Signed Language because other researchers have found that children in “oral-only” settings achieve much better results in speech perception and production (see, e.g., Geers 2002, Pisoni et al. 1999, Tobey et al. 2003). Fjord (1999, 2003) highlights this by describing how the United States began to treat Signed Language as being dangerous; if children with cochlear implants used Signed Language, it
would take over specific areas in their brains. This view became established and became a rational behind why deaf children should not use Signed Language. Instead they are to learn to speak and listen by using Auditory Verbal Therapy, which entails the child’s training to actively listen without visual signals, i.e., the speaker covers his or her mouth when speaking so that the child cannot read the lips, but has to concentrate on listening (see Eriks-Brophy 2004, Rhoades & Chrisholm 2000). But according to Fjord (1999, 2003), American scientists had not taken the brain’s plasticity and its potential for multilingual learning into account when they assumed that there was a “war” between spoken and sign language, where one would conquer the other. Fjord also argues that it was in connection with this thinking that children’s delayed speech development was blamed on their having learned Signed Language.

The idea that Signed Language should be avoided so spoken language development would be optimal, and that one of the forms of communication must be chosen, is, however, contradicted by several researchers. Giezen (2011) shows that a simultaneous use of speech and signs does not negatively affect the speech understanding of children with cochlear implants, and he, therefore, advocates the use of signed input to facilitate the interaction between the child and its parents to give the child a useful basis for development:

On the basis of our findings, we therefore argue in favour of signed input for children with CI. Signed input before and for at least some time after implantation can provide the means for effective early parent-child interaction and provide important foundations for cognitive, linguistic and social development […] [A]ccess to the signed modality will provide the children with the opportunity to use communicative means other than spoken language whenever needed to, for instance, in challenging listening environments, in the case of device malfunctioning or when interacting with deaf peers without a CI. Indeed, many parents think signing support is useful after implantation (p. 168).

Thus, one aspect of the benefits of using signed communication with these children is that they are not newborns when they undergo surgery, but it will take anywhere between a few months and one to two years before the operation can be carried out, and it may then take several years before the implants work optimally. If signed communication is not used during this time, the children miss an important and critical period of natural language acquisition they cannot acquire otherwise (Gárate 2011, Hyde & Punch 2011, Nussbaum & Scott 2011, Paludneviciene & Harris 2011). In addition, when they are older, children with cochlear implants can benefit from being able to use spoken and sign language varieties in different situations.
depending on what works best for them (Gárate 2011, Hyde & Punch 2011, Kermit 2010). Therefore, a multilingual or polylingual\(^9\) (Jørgensen 2008) approach, where children are allowed to use various language varieties and mix different language features and varieties when communicating, means that children with cochlear implants can be part of several different communities of practice and their cognitive and linguistic abilities increase. What is unique about mixing spoken and sign language varieties is that they are expressed through different modalities, which also makes it possible to use two language varieties and modalities simultaneously, i.e., speaking and signing at the same time. Knoors and Marschark (2012) argue that many young deaf people today, both with and without cochlear implants, use spoken and sign language together, even though it has been, and still is, a hot potato that bothers many people because this form of communication is not a real language. Knoors and Marschark (2012) contend that the use of signs to support speech promotes both the comprehension and production of language, but they also admit that there is a lack of research on the effects of such means of communication.

And if the children themselves are allowed to choose forms of communication, which one(s) do they prefer? Several studies show that children with cochlear implants use the means of communication they have access to. If they have only had the opportunity to develop spoken language, they use this form of communication, but if they have learned both sign and spoken language, the tendency is to go from using mainly sign language to gradually increasing the use of spoken language – but most commonly they simply use both forms of communication. Their choice of forms of communication is based on what works best in the current situation with the people they interact with in the actual setting (see, e.g., Hyde & Punch 2011, Rhoades 2011, Spencer 2002, Wheeler et al. 2007). This indicates that children with cochlear implants can learn multiple forms of communication, allowing the use of language varieties that work best for them in different contexts, even if it means a mixture of several language varieties or language features.

**Segregated or integrated schooling for children with hearing loss**
The debate about cochlear implants and their implications for the Deaf community as described above in *A collision between two discourses* is also interesting in an educational context. How should children with coch-

\(^9\) This concept will be further explained and discussed below in the section *Language ideology.*
ear implants be taught, and what forms of communication should be tried?

In Sweden, the first school for deaf children was established in 1809, and since then, most deaf pupils have received their schooling in this segregated school form, where they have been taught using various methods during different periods (see Domfors 2000, Pärsson 1997). Other types of school forms have been experimented with, where deaf pupils have been placed in deaf classes in regular schools, or became integrated in regular classes with assistants, etc., but the official policy in Sweden has been that deaf pupils would attend the segregated school for the deaf. In other countries, different school forms have been more common and usually with various types of integrated schooling for deaf pupils. In such integrated environments, the pupils often receive instruction together with their hearing classmates, and are sometimes taught in smaller groups or individually. As for support in the instruction and communication, they may have teachers, resource persons or interpreters who know Signed Language (see, e.g., Bellés et al. 2000, Ohna 2005, Ramsey 1997).

During the 1950s, when Sweden witnessed rapid technological growth, new types of hearing aids were developed. It meant that many more deaf people could hear sounds and this led to deaf people being divided into two groups: the deaf and the hard-of-hearing. Deaf children continued to be educated primarily in deaf schools, while hard-of-hearing children were given very diverse school placements: in deaf schools, as individually integrated (or included) in public schools or in so-called hard-of-hearing classes\(^\text{10}\) (see, e.g., Bagga-Gupta 1999). During the 1970s, a debate began in Sweden on the integration of deaf and hard-of-hearing children, primarily regarding their need to receive instruction together with other deaf and hard-of-hearing peers. This debate continued into the 1980s, resulting in more hard-of-hearing-classes being established within deaf schools and space integration in mainstream schools decreasing.\(^\text{11}\) The deaf school also became officially bilingual with Swedish Sign Language and Swedish in the curriculum *Läroplan för specialskolan 1983* (Skolöverstyrelsen 1983; see also Bagga-Gupta & Domfors 2003), and strengthened its position as the dominant school form for the deaf and many of the hard-of-hearing, a position it retained for the next two decades.

\(^{10}\) A hard-of-hearing class is one where the physical and educational environment have been adapted for pupils with hearing loss. Here hearing technologies are used and sometimes also different forms of sign language. Hard-of-hearing classes can be found in both deaf and public schools.

\(^{11}\) For a more in-depth description, see Study II (Holmström submitted).
Internationally, however, the trend was different, and integration of various kinds continued to dominate. But children primarily learn in interactions with other children and adults who share the same language variety as themselves and when they can use their own cultural tools for thinking, learning and managing symbolic systems. In such interactions, the children also learn to become members of not only a smaller community, but also the larger human society (Ramsey 1997). However, interaction with children who use spoken language is, Ramsey (1997) finds, only very limited for deaf children who attend integrated school forms. She also believes that the teachers there often have too little knowledge of Signed Language and do not understand what it means to be deaf (see also Kermit 2010, Ohna 2005). Although the intention is that deaf pupils should have the right to attend regular classes, this has more to do with ideological goals than learning, Ramsey (1997) argues. She also mentions that this is problematic when the deaf child’s participation becomes limited despite this:

What do Deaf people know about being mainstreamed that hearing people do not know? They understand the illusion of mainstreaming and know that physical integration, even with an interpreter, does not mean that they can fully participate. In actuality, the barriers to their participation create conditions that reduce their opportunities to communicate and interact with hearing pupils, precisely what mainstreaming is supposed to ensure (Ramsey 1997, p. 113f, italic in origin).

However, this does not mean that the deaf school is the only, or the best place, for all deaf and hard-of-hearing children, but there are many things to reflect upon when choosing the school form.

By the beginning of the twenty-first century, cochlear implant surgery on children had been performed in Sweden for a decade, but the number of children with this implanted hearing technology was still relatively small. However, this radically changed in the early 2000s. The number of surgeries in Sweden soared, and by the end of the decade, most deaf children had during their first year of life undergone surgery to receive one or two cochlear implants.

The fact that almost all deaf children today receive cochlear implants has, as mentioned earlier, led to deaf schools facing major changes. An increasing number of parents are choosing to send their children to public schools close to their homes or place them in hard-of-hearing classes located in the region. This is probably a contributing factor to why Swedish deaf schools have from 2000 to 2011 recorded a decrease of approximately
38% in their number of pupils. In addition, the deaf schools’ need for acoustically adapted classrooms and hearing technology has increased because more pupils than previously are taught there using spoken Swedish.

Although the number of pupils at deaf schools has been decreasing since the early 2000s, there are, however, also indications that pupils with cochlear implants (like other hard-of-hearing pupils) in the later school years are interested in attending deaf schools. But in parallel, the future of this school form has been investigated (SOU 2011:30, SOU 2007:87), and ideas have been put forward proposing a more flexible education where children should be offered more opportunities for adapted instruction, which would lead to the deaf school’s becoming a kind of resource centre rather than a segregated school. This also means that integrated schooling may become the dominant form, and the demands being made on the public schools to offer an inclusive education on equal terms for children with hearing loss are increasing. Similar developments are going on elsewhere in Scandinavia. In Denmark, the number of pupils at these schools in 2012 had dropped, and in Norway, there will be only one school for the deaf in 2014. This can be compared to Sweden’s five regional deaf schools in 2012.

As a contrast to this development, studies show that pupils who attend a school or type of school where they are taught together with several other deaf or hard-of-hearing pupils are happier, more confident and more emotionally stable than those who are individually placed, which indicates the importance of interaction with others who share the same forms of communication as oneself (see, e.g., Bagga-Gupta 1999, Bellés et al. 2000, Brunnberg 2003). What the consequences of the trend towards a more individual integrated school placement may be for deaf and hard-of-hearing pupils is at present unclear.

Hard-of-hearing children have other conditions and opportunities than deaf children for participating in spoken communication and interaction with hearing classmates, but there is currently very limited literature that illustrates hard-of-hearing pupils in inclusive classroom environments and

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12 This calculation is based upon Sweden’s five regional schools for the deaf and hard-of-hearing and three national schools for pupils with disabilities: visual impairment, mental retardation and language disorders. Looking at just the regional schools, there has been a 31% decrease. The numbers can be compared to the decrease of about 16% in the total amount of pupils in Swedish public schools during the same period (Skolverkets lägesbedömning: Del 1 – Beskrivande data, nr 11:1247).

13 In Norway, the Ministry of Education and Research decided in February 2011 to successively close three of the four deaf schools.
their participation there. The available research indicates, however, that the degree of participation in the classroom largely has to do with academic performance and social competence (Borders et al. 2010; see also Heiling 1999, Tvingstedt 1993). As for children with cochlear implants, there is also very little knowledge of the implants’ effects on the children’s school performances and psychosocial development (Blume 2010); rather, the tendency is for society to pay for expensive surgeries and then put them in public schools, which, in sum, is more cost-effective than if they attend a school for the deaf for many years (Blume 2010, Christiansen & Leigh 2002).

Several studies on the schooling of children with cochlear implants show that most of them use a range of resources to participate in the teaching, and that their individual support needs vary widely (Christiansen & Leigh 2002, Kermit 2010, Punch & Hyde 2010). The children often have difficulty keeping up with and understanding spoken communication if the school environment is noisy, and they exhibit many similarities with hard-of-hearing children in that they use different strategies to keep up with the teaching (Punch & Hyde 2010). The children usually do well in terms of academic knowledge, although in some areas they lag behind their hearing peers, and research shows that the main problems arise in the interaction with their hearing classmates (Christiansen & Leigh 2002, Kermit 2010, Punch & Hyde 2010). But each child is an individual with its own conditions and needs: “there is no magic formula for educating children with cochlear implants. Rather […], each child is different, and what might be an appropriate situation for one child may be completely inappropriate for another” (Christiansen & Leigh 2002, p. 202).

**Summary**

In this background description, I have shown that the development and implementation of cochlear implant technology have been fraught with tension due to two different perspectives having collided with each other: the medical perspective, mainly represented by the medical profession, that saw the technology as an opportunity for deaf people to hear sound and increased in different ways their prospects of participating in spoken communication and, in general, society, and the linguistic-cultural perspective, represented by the Deaf community, which viewed the technology as something it did not want, but was foisted on it and, therefore, became perceived as a threat to the community’s language and culture. We also found expressions of this in Study I (Holmström & Bagga-Gupta 2013) in the articles in the archival data, and could see that the NGOs differed from
each other because one of the organizations mainly represented the medical perspective, while the other two the linguistic-cultural.

In this background section, I have also shown that different forms of communication have been discussed in relation to children with cochlear implants. Research and opinions have been divided on whether children should learn spoken language, signed language or both. However, in recent years, studies have shown an ever-increasing preference for mixing both language varieties simultaneously. In Studies I (Holmström & Bagga-Gupta 2013) and II (Holmström submitted), we have highlighted evidence showing that the preference for different forms of communication has varied over time and differed between the organizations, but that mixing language varieties has been discussed to a much lesser extent.

Finally, I have also explored here the increasing number of mainstream school placements for children with cochlear implants, a placement that has hardly been examined previously in Sweden, which has a long tradition of mainly segregated school placements for deaf children. Questions about the integrated school placement have been the particular focus of Study II (Holmström submitted), where both sociohistorical perspectives and the contemporary situation are examined.
Learning by Hearing?

Although cochlear implants have changed the conditions for deaf people to participate in spoken communication, the technology does not give deaf people “normal” hearing. Instead, the hearing provided is artificial, and the brain has to learn how to interpret and distinguish audio signals via the technology. From a sociocultural perspective, learning through social interaction is essential, and when one or more persons use cochlear implants, particular demands are made on the participants in the interaction. However, it is not only the interaction itself that is of importance but also the sense of belonging and the membership of different communities of practice, something that also affects self-perception and identification. And even if there is an interest in identity positions within communities of practice (see, e.g., Lave & Wenger 1991, Wenger 1998), questions about identity, communication hierarchies and power relations are not in main focus. Therefore, I also utilize postcolonial theory. In the following section, the thesis’s overall theoretical framework will be presented.

Learning in and through social interaction

From a sociocultural perspective, which is this thesis’s point of departure, learning is not something that occurs within individuals themselves or can be transferred between individuals in the form of complete packets of knowledge. Rather, it is about interacting with other people in many different social and cultural environments, and through this interaction develop knowledge and various kinds of social relations (see Martin 2004, Sahlström 1999, Säljö 2005, Vygotsky 1978). In this interaction with other people, language is central because it is through language people can have discussions, benefit from others’ knowledge and develop their thinking. Säljö (2000) emphasizes also the role of communication for participation and development, arguing that “communication precedes thinking, and to learn a language is to learn to think within the context of a specific culture and a particular societal community” (p. 67; my translation).

Against this background, communication is central from a sociocultural perspective, and, therefore, for this thesis as a whole. People shape themselves and others as well as their ethics and morals through different kinds of communication (Säljö 2000). And communication involves much more than just language; it is something much larger and comprehensive. Communication may be various kinds of talk, chatting on the Internet, gestures, marketing, images, choice of dressing style, etc. Communication, therefore, is not a transfer of knowledge from a sender to a receiver, but about partic-
ipation where people interact with each other. But this interaction does not mean that the understanding of various events and phenomena will be the same among the participants in the interaction.

Knowledge and skills have been jointly developed by people in interaction, and not by individuals themselves. This explains why different societies and groups within them can differ so widely (Bagga-Gupta & Säljö 2013 in press, Säljö 2005). According to Vygotsky (1978), new knowledge builds upon previous knowledge, and his idea of a zone of proximal development is based on the idea that people learn best when they interact with other more experienced people than themselves:

[The zone of proximal development] [...] is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (1978, p. 86).

Vygotsky assumes that children can, through participation in different kinds of instruction, always learn more than they already can and mentions that it is therefore important to build upon things the child already can while giving it enough challenging tasks to work further with. Säljö (2005) also argues that it is mainly through participation in various activities that learning takes place, and not by explicit teaching itself. Therefore, one can assume that learning is fundamentally about participation. This very participation is of particular interest in this thesis’s studies.

A sociocultural perspective involves trying to understand the interaction between individuals and external resources in the form of a range of technologies (Säljö 2005), namely, human beings appropriation of a variety of cultural tools in their interactions with others (Säljö 2005, 2010, Wertsch 1998). These tools can be of two kinds: intellectual tools (such as language) and physical artefacts. These serve as mediating tools between people and their surroundings. Briefly, mediation means that individual thinking and ideas have grown within our culture and its intellectual and physical tools (Säljö 2000, 2005). One cannot separate intellectual and physical tools because together they constitute cultural tools (Säljö 2005), which are also completely ineffective if no agent uses them: a pole for pole-vaulting is useless if no one uses it for the specific purpose of pole-vaulting (Wertsch 1998). Similarly, the microphones in a classroom or cochlear implants are ineffective unless people use them to facilitate spoken communication.

When new mediating technologies are developed that replace earlier ones, an imbalance can appear for those who have used the latter. Resistance may initially be strong because the new technology is more or less likely to replace the older one, and can therefore be perceived as a threat.
to, for example, skills that have been important for a long time (Wertsch 1998). Wertsch (1998) exemplifies this with the advent of the calculator. When it was invented, there was stiff resistance because people were worried that it would weaken the mind and lead to children not learning mental calculation. However, when new technologies have been used for a time, they tend to be increasingly accepted and are more widely used. This happened with the calculator, which is now used more or less alongside mental calculation and other forms of arithmetic in school (Wertsch 1998). Parallels can be drawn to how the Deaf community initially strongly opposed cochlear implants, but gradually showed a growing acceptance of the technology.

In this thesis, mediating technologies play an important role in understanding communication issues, and identity positioning from both socio-historical and contemporary perspectives because people with hearing loss generally interact with others (and thus learn) with the help of a range of technologies.

Taken together, if learning takes place in social interaction with other people, as mentioned above, it is clear that the school is not the only setting where learning occurs. On the contrary, learning takes place wherever people meet and interact with one another. But does this mean that the school has had its day? Of course not. In school, children and adolescents are given many and varied opportunities to develop different kinds of skills. There they can appropriate cultural tools that they do not naturally encounter outside the school and in teaching. In school, they may also interact with many different people, both adults and peers. And there they get the opportunity to acquire new knowledge in interaction with more competent others, such as teachers, classmates or older pupils. The school, therefore, remains an important place where learning is made possible in many different ways.

**Social interaction and participating in communities of practice**

As shown above, learning, from a sociocultural perspective, takes place in social interaction with other people. This interaction usually occurs through participation in various communities of practice (Lave & Wenger 1991, Wenger 1998, Wenger et al. 2002), which consists of groups of people who share a concern, a set of problems or a passion for a topic (Bagga-Gupta 2011). Within communities of practice, the members deepen their knowledge and expertise through an ongoing interaction. Hellermann (2008) defines a community of practice as follows:
A community of practice is a group of individuals, usually physically co-present, who come together under the auspices of a common interest or goal and co-construct practices for the interaction that, in turn, constitute the community of practice – their reason for coming together (p. 7).

The personal relationships and interaction forms that occur in different recurring contexts will eventually develop further, and this can lead to a shared sense of identity (see also Wenger et al. 2002). They have become a community of practice. Such communities of practice can take many different forms and appear in all contexts where people meet:

Communities of practice are everywhere. We all belong to a number of them – at work, at school, at home, in our hobbies. Some have a name, some don’t. Some we recognize, some remain largely invisible. We are core members of some and occasional participants in others. Whatever forms our participation takes, most of us are familiar with the experience of belonging to a community of practice (Wenger et al. 2002, p. 5).

A community of practice is made up of a group of people who interact, learn together, build relationships and in the process develop a sense of belonging and mutual engagement. It is not enough to meet occasionally, but to build a community of practice, the members must interact with each other regularly regarding issues that are important within their domain (Wenger et al. 2002). However, the members of communities of practices are not predetermined. Former members may leave them, and new ones may apply. When new members apply, their participation initially can be said to be “legitimate peripheral” (Lave & Wenger 1991). This means that although they are accepted as genuine members of the community of practice, they at first have a more peripheral position. Eventually, as they develop knowledge and skills, their participation gravitates more and more towards the centre of the community (Lave & Wenger 1991). But sometimes the member remains peripheral, and this phenomenon is of specific interest in this thesis’s four studies.

Communities of practice are usually attributed to those that occur and work in places where the participants are physically present. Today, however, with society’s becoming more digitalized, the ability to interact with others at distance has increased (see e.g. Messina Dahlberg & Bagga-Gupta 2013a). Now interaction can also take place via videoconferences, video phone calls or digital communication tools, such as Skype. Moreover, one can imagine that phone calls, virtual meetings, audio-only seminars and other forms of written interactions, such as email and chat, are also important parts of a human’s learning in interaction. Wenger et al. (2002) use the term “distributed communities”, where “distributed” refers to just such
communities of practice that are not primarily based on physical meetings and interactions. Most communities of practice can obviously be said to be distributed in any form and size, but when it is about a larger number of people who mainly interact with a “physical distance” between each other, they are more primarily distributed than others. In any case, distributed communities usually have a greater diversity of perspectives, needs, interests, priorities and expectations than local groups, and they normally spend more time building consensus and aligning priorities and needs (Wenger et al. 2002).

Members of communities of practice are engaged in various kinds of interaction in different ways, and at the same time they develop varied identities and identity positions. Here the ability to communicate with others is an important factor. However, one cannot in a definite manner determine which identities one may have because these are products of social interaction between individuals in society, and are constantly changing in this interaction (see, e.g., Feuer 2008, Fishman 2010, Riley 2007, Tatum 1997). Therefore, identities do not remain the same throughout an individual’s lifespan. A woman can have an identity as a researcher in one community of practice and as a mother in another. She can be an author, a businesswoman, a daughter, a Swede and deaf. And in the different communities of practice she belongs to, she can act and identify with others in completely different ways – and be perceived by others in a myriad of ways. The development of a self and the identities is a process that involves both psychological motivation and cultural knowledge and the final result is “not a static, but rather a dynamic construction of identity, mediated by the individual’s social position as well as cultural, linguistic, and social experiences” (Leigh 2009, p. 4).

Communities of practice are often perceived as something positive that is strengthening to be part of, and something that promotes learning, but like other human constructions, communities of practice have also a downside. Wenger et al. (2002) argue that this downside means that the community, for example, can hoard knowledge, maintain innovation and keep others dependent on their expertise. Communities of practice that work too well can also lead to some assumptions that are not being questioned and challenged, which can result in the community’s development stagnating. Another downside of communities of practice is that they sometimes can exclude certain people from participation (Wenger et al. 2002). Therefore, communities of practice can be said to include both hierarchies and normative notions and hence power relations. Based on this, I will also add a power perspective to learning and communication within communities of
practice, something I will return to below in the section *Power and ideology in communities of practice.*

**The Deaf community – a community of practice**

Based on the discussion in the previous section, the Deaf community can be considered a community of practice consisting of a group of people with varying degrees of hearing who interact in and through a national Signed Language. The Deaf community builds relationships, and within it, the members develop a sense of belonging and mutual engagement while sharing, what is called, a deaf culture. The members of the Deaf community also share a common experience, namely, the deaf have historically been denied the opportunity to communicate by Signed Language, both in education and everyday life, and, instead, have been expected to learn to speak and understand a language variety they cannot hear (Blume 2010, Higgins 1980, Ladd 2003, Lane, Hoffmeister & Bahan 1996). These feelings and experiences may also explain why the resistance to cochlear implant surgery, as described above in *A collision between two discourses*, was initially so strong. The surgeries were a new indication that deafness should be seen as a defect which needed to be cured or remedied and the deaf were thus not allowed to be happy as they were.

For many deaf people, membership of the Deaf community is positive and strengthening. Within it, the members can communicate in a shared Signed Language, meet people with similar interests and experiences and do things together on equal terms:

Use of sign language establishes a boundary or a marker, indicating a difference and distance from the hearing community; it tends to lead to interactions with other Deaf people, socialization into Deaf culture, identification with Deaf people, and engagement in Deaf society’s cultural activities and their shared values, meanings, and understandings (Baker 2010, p. 160).

Many deaf people may experience that they become excluded from communities of practice where Signed Language is not used, e.g., in a workplace with only non-signing colleagues (see, e.g., Fredäng 2003, Ladd 2003). By participating in a Deaf community (whether a physical or distributed), e.g., in their leisure time, where they can participate more as full members and use Signed Language, they may cope with the excluded – or peripheral – position in the hearing society (see, e.g., Fredäng 2003). However, one can also similarly argue that the Deaf community may exclude people who do not use Signed Language (see, e.g., Lane, Hoffmeister & Bahan 1996).
Actually, one cannot speak of one Deaf community because there are so many different ones, both within and across national borders, but it may still be possible if one believes Wenger et al. (2002), who argue that when communities grow, their structures and characteristics are changed. If a community of practice consists of fewer than 15 people, the members often are very intimate, while those with more than 150 people frequently develop different subgroups (Wenger et al. 2002). Against this background, local Deaf communities in Sweden can be considered subgroups within a larger Swedish Deaf community, which, in turn, may constitute a subgroup of a bigger worldwide Deaf community. Such a view can also be found in Higgins (1980). He argues that deaf people can be viewed as outsiders in a hearing world and claims that

> within the larger society, outsiders often create and maintain communities. Some of these communities are located within well-defined geographical areas of the city: ethnic neighborhoods, ghettos, or barrios. Members primarily associate with one another. [...] Other communities of outsiders, though, may not be quite so geographically bound. Through marriages (both legal and symbolic), friendships, clubs, formal organizations, and a special argot or language, outsiders who are scattered throughout a metropolitan area create their community. The deaf community is such a creation. Through these various avenues of association, deaf people can keep in contact with one another in ever widening circles. First at the local level and gradually building to the national level, a network of relationships among deaf people is established. Through that network a sense of solidarity is created among a widely dispersed population (Higgins 1980, pp. 74–75, italics in origin).

Higgins’s description can be compared to when people from the same country come together in another country and feel connected and close to each other despite having lived in different regions in their home country, perhaps speaking different dialects of a language variety and never having met or socialized with each other there. It can be based on a sense of belonging and common denominators, such as language variety, culture or origin. For example, one can talk of a Swedish or European community without denying that there are, in reality, many Swedish or European sub-communities. The Deaf community can also be considered a distributed community of practice (Wenger et al. 2002) because the members are not always physically close to each other.

Against this background, one can understand why international research commonly refers to the Deaf community in the singular regardless of categories, such as ethnic groups or nations (see, e.g., Baker 2010, Blume 2010, Christiansen & Leigh 2002, Ladd 2003, Paludneviciene & Leigh 2011). Therefore, I have also chosen to use the term “Deaf community” in the
singular in this thesis when referring to a larger and more general community rather than specific ones.

Furthermore, it is not the case that all deaf people are part of a Deaf community, and nor are all members of the Deaf community deaf. Membership of the Deaf community is based on a common language variety and culture, not on physical criteria, such as hearing loss (see, e.g., Baker 2010, Higgins 1980, Leigh 2009, Ladd 2003, Lane, Hoffmeister & Bahan 1996, Padden & Humphries 1988). In much international literature, the difference between the linguistic-cultural aspect and the audiological disability is marked by the use of “Deaf” with a capital D instead of “deaf” with a small d. Padden and Humphries’s explanation (1988) of this is that,

the fact of not hearing is not itself a determinant of group identity. Although the term ‘deaf’ is the group’s official label for itself, people who are Deaf can have a range of hearing abilities from ‘hard-of-hearing’ to ‘profoundly deaf,’ and, conversely, there are people with severe or profound hearing impairment who do not participate in the community of Deaf people (p. 4).14

Baker (2010) explains further this non-participation in the Deaf community by mentioning that identification with it is about self-perception and not physical characteristics, and some deaf people choose to identify solely with mainstream society and culture rather than with the Signed Language group, in a similar way as some individuals in other language minorities in different countries (see also Higgins 1980).

Taken together, this means that people with cochlear implants have the opportunity to choose whether they want to join the Deaf community or not by the choice of forms of communication and their identifications and sense of belonging. It is also possible that people with cochlear implants will in the future create a new community of practice based on their common interests, opportunities and choices of forms of communication.

**Power and ideology in communities of practice**

As indicated above in the section *Social interaction by participating in communities of practice*, Lave and Wenger (1991) and Wenger (1998) do not explicitly discuss power relations, hierarchies and normative notions in communities of practice, and because these actually occur and are of interest in this thesis’s studies, I employ a postcolonial theory to investigate such issues. An important part of postcolonial theory is “the contestation

14 In this thesis, I do not use this difference between Deaf and deaf because this distinction is not usually made in Swedish literature (this is not the case in Norway either; see Hansen [2005], who argues for her non-use of the capital D). Therefore, I always use the concept “deaf”, except when writing about the Deaf community.
of colonial domination and the legacies of colonialism” (Loomba 1998/2002, p. 12). With colonialism referring to an unequal relationship between two or more groups, where one group dominates and has power over the other. The colonizing group may subject the other to different kinds of oppression, which can include everything from genocide to cultural mutilation and political exclusion (Loomba 1998/2002). The repression may also be of quite another kind, as when members of certain groups are denied access to, for example, higher positions or opportunities to use their language variety. Here parallels can be drawn to how the medical profession and those allied with it came to dominate the Deaf community in respect to forcing through cochlear implant surgery for children (see the above section Complicated relations – technology vs. the Deaf community). The medical profession’s view has been that deafness is a defect that should be cured by a medical procedure so that children are able to hear sounds and thus can hear as much as possible (and consequently as “normal” as possible; see, e.g., Lane, Hoffmeister & Bahan 1996). But the Deaf community reacted against its members’ lives, its culture and its language variety not being seen as “good enough” and thus it regarded the surgeries as oppression. The parallel drawn here is not new, but using different sources, attempts have been repeatedly made to employ colonialism and postcolonial theories to explain the Deaf community’s relation to other (hearing) communities of practice. This has particularly occurred in Deafhood thinking (Ladd 2003), where it is argued that the Deaf community and its culture have been violated and oppressed by the majority society, especially during periods of oralism.15

An example of how postcolonial theory has been linked to Deafhood is found in Ladd (2003), who draws similarities between the Deaf community and America’s indigenous people. Here he refers to the infamous and often referred to the world congress for teachers of the deaf held in Milan in 1880, the participants decided that deaf pupils should be taught using the oral method (i.e., national spoken language varieties), and not the sign method (i.e., national Signed Languages). This decision then spread throughout the Global North. Ladd writes:

What could we have been had not sign language and Deaf teachers been removed from Deaf education after the Milan ‘Congress’ of 1880, a date as pregnant with meaning for us as 1492 is for Native Americans. What could

15 Oralism is a method for teaching deaf pupils using spoken language and lip-reading only, and in this method, sign language is not allowed at all. Oralism occurs and reoccurs in many places in the world and has been the dominant method in various countries during different periods (see e.g. Bagga-Gupta 2004a).
we have been had we not been forced to endure more than a century of English illiteracy, self-shame and stigma? Who and what were we in the centuries before such prohibitions descended, when Deaf professionals and Deaf pride was reputedly much stronger? And what can we bring forward from those times which might inform the fledgling steps we must take in this 21st century? The drive to answer these questions, the process of becoming – these I have called Deafhood. Deafhood affirms that how we have been these past 120 years is not all that we truly are. It affirms the existence of a Deaf sense of being, both within the individual and throughout the collective, which, like a river surging against a dam, cannot rest until it can find a way through that will take it down to a sea of life, where all human souls are enabled both to find their fullest self-expression and to interpenetrate each other (Ladd 2003, p. 4).

What emerges in Ladd’s (2003) work is recognized in postcolonial theory, where postcolonialism refers to a process of liberation from colonial syndrome. In this liberation process, the question of identity is often in focus:

[F]or many groups or individuals, post-colonialism is much more to do with the painful experience of confronting the desire to recover ‘lost’ pre-colonial identities, the impossibility of actually doing so, and the task of constructing some new identity on the basis of that impossibility (Childs & Williams 1997, p. 14).

So far it can be understood that there are unequal power struggles between different groups or communities of practice in various parts of the world and within national societies. However, such unequal relationships do not only exist here but also in much smaller communities of practice – in a school, a class or a family – unequal relationships exist between different groups. In a school, one can, for example, distinguish a management group, one (or more) teachers’ group(s) and one (or more) pupils’ group(s), where there may be tensions and feelings of powerlessness among the groups, and where hierarchies can be clearly found. In a class, the same pattern perhaps appears even more clearly in that the teacher controls the speaking space (the so-called two-thirds rule, meaning the teacher has the floor for about two-thirds of the time), and the pupils have to raise their hands if they want to say something. The teacher can also in IRE sequences initiate (I) a topic, give a response (R) to it and evaluate (E) the pupils’ answers (see Granström & Einarsson 1995, Sahlström 2008). In classrooms with hard-of-hearing pupils, it may also be that the teacher determines when and how different auditory technologies and other resources should be used. Within families, it is the parents who have power over their children, e.g., when they make key decisions about their children’s school placements and everyday lives. For parents of deaf children, such
crucial decisions also include letting the child undergo cochlear implant surgery.

**Language ideology**

Power in itself does not have to be a negative thing, but the effects it has on people need to be discussed. Blommaert (2005) suggests that the greatest effect which power has is inequality, which impacts on people, groups and societies in different ways. He claims that “language is an ingredient of power processes resulting in, and sustained by, forms of inequality […], crucial to an understanding of wider aspects of power relations” (p. 2).

If one knows a language variety that has a high status in a society, one can gain access to political circles and higher education, and may be able to get better jobs and have a greater influence over one’s own life. In colonized societies, it is usually the colonizing group’s language varieties that will dominate other language varieties. Many communities have therefore through colonization more or less gone from using local language varieties to increasingly employing the colonizing language variety (see, e.g., Kulick 1992, Wedin 2004). The original local language varieties can eventually become fewer, less popular, used in ever-fewer domains and, in the end, more or less forgotten and in danger of dying out. A language variety can thus have power over other language varieties, and language ideologies exist. A postcolonial theory used in this thesis to understand power relations specifically focuses on such language ideologies because power is intertwined with language (or forms of communication) in several ways in both the archival and interactional data sets used here.

Language ideologies mean that people are assessed and defined by the language variety they use. Irvine (1989) defines language ideology as “the cultural system of ideas about social and linguistic relationships, together with their loading of moral and political interests” (p. 255). Kroskrity (2010) similarly argues that language ideology should be regarded as a cluster concept with several convergent dimensions, where it is the social experience of members of specific social or cultural groups that constructs language ideologies in connection with political-economic interests. Taken together, ideologies can be considered “rooted in or responsive to the experience of a particular social position” (Woolard & Shieffelin 1994, p. 58). One can therefore say that language ideologies underpin what is deemed right and normal regarding how to behave, think and feel. This can lead to people or actions that do not fit into the ideological norms being made invisible, something Irvine and Gal (2000) describe as *erasure*. This concept is primarily used in Study IV (Holmström, Bagga-Gupta & Jonsson submitted), and is similar to Jørgensen’s (2008) description of a *double*
monolingualism norm, namely, languages should be kept apart because there will be a linguistic mess if different languages are mixed or if several languages are used in parallel. The idea of keeping languages separated has also been discussed in connection with deaf education. For example, Bagga-Gupta (2000, 2002b, 2010) describes how researchers and deaf schools in Sweden since the mid-1990s have supported the ideology of keeping Swedish Sign Language and Swedish language apart in deaf instruction, and deaf education has both historically and internationally been framed by monolingual norms where the use of oral language varieties has dominated (see, e.g., Gibson, Small and Mason 1997), e.g., in periods of oralism.

Oralism can thus be seen as an expression of a language ideology in which national spoken language varieties are regarded as better and worthier than national Signed Languages. However, an ideology does not need to be about oralism when pupils with hearing loss are today taught using spoken language varieties. If spoken language varieties are preferred and sign language varieties are pushed into the background, it can be seen as an indication of a language ideology that puts a higher premium on spoken language varieties rather than signed. As mentioned earlier, the main aim of cochlear implant surgery is that children shall develop spoken language, and although this surgery can be understood as a safe medical procedure, it can also be seen from a language-ideological point of view, where it is a preference for spoken language varieties. Such language ideologies can also be found when concerns are expressed (e.g., in archival data) that sign language will influence the development of spoken language, and it, therefore, should be avoided. From this perspective, one can understand that people who use national Signed Languages risk ending up in the background and becoming invisible; they can be subjected to erasure, where their ability to interact with other people and visually communicate becomes difficult or is not encouraged. However, an ideology is not just purely about spoken language or sign language for people with hearing loss and cochlear implants, as described above in the section Either signed or spoken communication – or both? Rather, they use, just like people in other groups and in various parts of the world, different mixings of language varieties or features for communication in interaction. Bagga-Gupta (1999, 2000, 2004b) uses the concept chaining to describe a common interactional pattern in classroom settings where Swedish Sign Language and Swedish are present, e.g., for connecting signs, written texts or words, and finger-spelling to each other during the instruction. In addition, Bagga-Gupta also uses this concept for classroom activities involving interpretations between Swedish Sign Language and spoken Swedish and for periodically switching
between the two language varieties. Furthermore, chaining is used for activities where one person reads a written Swedish text while signing. This latter activity is unique because the different modalities in play offer an opportunity to do this mixing simultaneously. It is, however, not only written and sign language that can be used simultaneously: features of spoken and sign language can also be mixed at the same time to different degrees, and may be described as a form of chaining. Bagga-Gupta and her colleagues work also illustrate chaining of different language varieties in (hearing) face-to-face and virtual learning sites in Sweden (see Gynne & Bagga-Gupta 2013 in press, Messina Dahlberg & Bagga-Gupta 2013b). The concept chaining can also be linked to the phenomenon Jørgensen (2008) calls polylingualism, namely, participants in interaction make use of all the linguistic resources available to them regardless of whether they have access to the codes to achieve their communication goals. The communication here may not be a “pure” form of any particular language variety. In this way, polylingualism differs from multilingualism, where speakers have access to several specific language varieties that can be used in communication (see, e.g., Møller & Jørgensen 2009). Polylingualism is thus about achieving communication in interaction and not about using or learning specific languages. In this thesis, I, therefore, try to use the idea of polylingualism to understand the phenomenon of talking and signing simultaneously that has been identified in the analysis of the empirical data.

When trying to limit the use of polylingualism for people with hearing loss, this can be seen as an expression of the double monolingualism norm, i.e., languages must be kept separate and not mixed. But such separating of language varieties entails restricting the means of communication in a variety of contexts, and consequently leads to a limitation of human interaction with each other – and, as I argue, thus also of their learning.

The classroom: a community of practice with power relations and language ideologies

As mentioned earlier, the classroom can be considered a smaller community of practice where teachers and pupils interact, learn together and build relationships with each other. There is also, as already mentioned, unequal power relations in that the teacher has the right to decide who gets to speak, what to talk about or work with, whether an answer is correct or not, etc. This is shown by Jackson (1969/1990), whose study found a pattern that later became known as the “hidden curriculum”. Jackson discovered that there are underlying rules in school about how to behave, when to talk, how to get help, etc. An unequal power is one of the classroom’s
features, Jackson argued, describing it as something the pupils simply would learn.

In the classroom, the teacher can express language ideologies by highlighting some languages, linguistic varieties or forms of communication over others. The teacher can also evaluate the pupils’ language, discuss linguistic expressions and represent a norm for what is considered “good language”.

Although one can say that the classroom and classroom research today have lost its monopoly on explaining pupils’ learning and identity formations (because learning does not only takes place in the classroom), it still lacks clear links between theoretical insights and empirical studies (Sahlström 2008). Therefore, there continues to exist a need for classroom research. Through theoretically framed empirical studies of classrooms where there are pupils with cochlear implants, this thesis attempts to understand how everyday life at school is for children with cochlear implants in respect to learning, participation and interaction.

Traditionally, society expects school research to “deliver complete proposals for solutions to what are perceived as problems in school” (Evaldsson et al. 2001, p. 12; my translation). But it is not always the starting point for research on school and education. Despite this, municipal educational politicians and teachers understandably look for support to deal with complex school activities. However, research cannot provide clear answers to what could be better than anything else because one always must consider from whose perspective the valuing is done, in which situations and for what purposes (Evaldsson et al. 2001). Knowledge of what happens in school and in the classroom needs to be developed and renewed. Society is perpetually changing and thus also the school. Previous problems disappear and new ones appear; new curricula replace previous ones; new generations of teachers succeed previous generations of teachers; and new pupils take the place of former pupils – all this in an endless spiral. But to understand schools and teaching today, one needs to know what they were like before. One needs to know the traditions and histories of schools and what happened both inside and outside their walls in order to understand today’s schools and to continue moving forward towards new goals. Classroom research cannot provide solutions to contemporary problems, but highlight what, when, how, and maybe suggest why different things happen. Turning research knowledge into practical solutions and methods must lie with practitioners themselves (Evaldsson et al. 2001).
Summary

I have in this section presented the thesis’s theoretical framework. The point of departure is a sociocultural perspective where social interaction with others in different communities of practice is seen as being fundamental to learning. I have also assumed that communication is an important part of social interaction because it is by communicating with others that people can share thoughts and experiences, develop as people and learn new things. In all of the thesis’s four studies, a sociocultural perspective and communication issues and forms of communication are all-pervading, as are mediating tools in the form of different kinds of technologies.

The concept of communities of practice is also discussed in this section. They constitute contexts where people come together, share daily life, common interests and are jointly involved, and in where people develop a sense of belonging with other members. In this section, I have suggested that the Deaf community is a community of practice, as are the school classrooms. The concept of communities of practice is of particular interest in Study I (Holmström & Bagga-Gupta 2013), where we illustrate how forms of communication have changed over time and have in different ways affected people with hearing loss and their participation in the larger social community and the Deaf community, and how this also shapes their identity positions. Furthermore, in Study II (Holmström submitted), in the part of the analysis that is based on archival data, the concept of communities of practice is of particular interest. Here it appears that the NGOs (mainly the Swedish National Association of the Deaf [SDR] and the Swedish National Association for Deaf, Hearing-Impaired and Language-Impaired Children [DHB]) have pursued the idea that children with hearing loss need to be together with others who share the same forms of communication and have the same starting points as themselves and they should therefore receive instruction together with their peers in deaf schools. In the second part of Study II, and in Studies III (Holmström & Bagga-Gupta submitted) and IV (Holmström, Bagga-Gupta & Jonsson submitted), the interactional data from the classrooms are considered smaller communities of practice, the focus of which is the participation of the pupils with cochlear implants in the interaction.

In this section, I have also shown that theories of communities of practice are not sufficient to analyse questions about hierarchies, ideologies, power and identity. Therefore, I have employed postcolonial theories to examine such issues that actually occur both within and between communities of practice. These perspectives are particularly evident in Studies II and IV, where issues of power relations and language ideologies are given particular prominence. In these studies, we use the concepts of double
monolingualism norms and polylingualism to understand how the forms of communication are handled and used with the aid of mediating technologies. Furthermore, postcolonial perspectives help us to see how power relations between the adults and the children with cochlear implants in classrooms give the latter different identity positions in comparison to their hearing peers.
Learning by doing ethnography

This thesis has been written within the framework of the project Communication, Identity and Technology (CIT), initiated at Örebro University in 2009 and which will be described in more detail in the last section, The project CIT and future work. In this section, I will describe the creation of the project’s empirical data, where an ethnographic approach was the starting point. The material consists of both archival and interaction data, which together formed the basis for the project’s four studies that are a part of this thesis. The following section also addresses the analytical work and transcription methods.

Learning by doing – doing ethnography

This thesis has an ethnographic approach, that is, I have been inspired by ethnographic research in the creation of data. When talking about ethnographic research one often means that the researcher stays in a foreign environment for a long period, living side by side with the people there, in order to study their everyday lives and document and describe them (Agar 2008, Hammersley & Atkinson 2007, Wolcott 1999). But having an ethnographic approach does not always mean that you are in far-off places for long, uninterrupted periods of time; it can also mean studying one or more environments that are geographically closer for several shorter periods of time (Hammersley & Atkinson 2007, Wolcott 1999). It is by way of this latter method that this thesis’s empirical data has been created: during the spring semester of 2011, I followed two classes in two different schools throughout their school days.

The word ethnography is derived from ethno, meaning human beings, people, and graphia, meaning image, description. Somewhat simplistically, one can therefore say that ethnography is about creating a “human image” or constructing a “human description”. And ethnographers are interested in describing “what the people in some particular place or status ordinarily do, and the meanings they ascribe to what they do” (Wolcott 1999, p. 68). This is also the starting point in this thesis: to describe the everyday lives of two classrooms during my fieldwork there while trying to keep my eyes open for anything that happened rather than asking questions about various issues.

Learning how to conduct ethnographic research may, however, be both difficult and time-consuming because the researcher should learn to note attentively, make careful observations, ask questions that need answering

16 See also http://www.oru.se/project/cit.
and be able to make an in-depth, bold analysis (Agar 2008, Ely et al. 1991, Whyte 1999, Wolcott 1999). Ethnographers also need to acquire a sense of what constitutes an ethnographic problem and develop an understanding of what issues result in ethnography rather than an inventory like a biologist’s inventory of flora and fauna (Wolcott 1999). Ethnography is not about collecting data, but formulating a problem in a way that leads to new knowledge (Whyte 1999).

Before conducting an ethnographic study, the researcher never knows what he or she will discover and what the results will be, and that is important to keep in mind when reading this thesis. Ethnographers may have ideas about what they could discover in their work, e.g., through previous research or personal experience, but must be able to reject and change their assumptions when new facts appear (Agar 2008, Ely et al. 1991, Wolcott 1999). It is therefore important that the ethnographer is open to everything that happens in the environments and not omit things which at the time may seem unimportant or unnecessary because, in retrospect, such facts or events may actually have a crucial role (Ely et al. 1991).

### Identifying schools and families

Ethnographic research involves several phases, including preparation, access to the field, participant observations, leaving the field and analysis (see Agar 2008, Ely et al. 1991, Hammersley & Atkinson 2007, Wolcott 1999). Before the researcher can conduct fieldwork, careful preparation must be made. The researcher first needs to determine the direction of the research, and thereafter choose a specific place or group to study. Finally, the researcher must find a way into the chosen environment. One way to gain access to the field is to use “gatekeepers” who may help to arrange contact with, for example, a school of interest for the study. In project CIT, we used such gatekeepers to gain access to the field: we contacted a few selected representatives at the National Agency for Special Needs Education and Schools (SPSM) and two parents’ organizations, DHB and Barnplantorna.\(^{17}\) (The Swedish Organisation for Children with Cochlear Implants or Hearing Aids), because we hoped that they could help us further. Contact was made first by an e-mail to access the archival data and later by way of a letter to each of the prospective gatekeepers. In the letter, I was introduced as was the research to be conducted (see Appendix A). We also asked whether they were willing to send a letter to families who had children with cochlear implants. The letter contained information about the study.

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\(^{17}\) The organization’s target group is parents of children with cochlear implants or other hearing aids.
and a request asking whether they were interested in participating in it. We also explained that by going through the gatekeepers, the families would be completely anonymous to us; only if they were interested and contacted us would we know who they were. The letters with information and requests were written in two versions: one for the families and one for the children’s schools, and attached was a reply form to return to us if they were interested in participating. The letters and forms can be found in Appendices B–E. SPSM and DHB said that they were willing to assist us in the search for families, but Barnplantornna would not send such letters to its members. Therefore, the letters to families and schools were only sent via SPSM and DHB.

A number of reminders via telephone and mails were made to the gatekeepers since no responses had reached us from interested families. With time slipping away, we also tried other ways to reach people with the letters, namely, we used our own contacts and other different networks. With DHB’s help, an advertisement for interested families was also published in its periodical. I have no concrete understanding as to why it proved so difficult to get in touch with families and schools. Perhaps it was due to the study’s nature; with a camera in tow, I would be part of their everyday lives and follow the children throughout their school day for a period of time. It may also have been because this type of study has not been conducted and neither is it a widespread tradition in Sweden. This is especially the case with children and young people with cochlear implants, as the literature review has revealed. The fact that I am deaf and would bring Swedish Sign Language interpreters into these settings may also have had a bearing.

The project CIT started to search for families early in spring 2009 and it took more than a year before the first family contacted us. However, after contacting a couple of families, preparations were made for a first meeting and for carrying out the fieldwork. During the preparations, an inquiry was sent to the regional ethical review board, whose response was that the study needed to undergo an ethical review, whereupon such an application was made. The application was subsequently approved. The fieldwork was conducted in spring 2011.

Conducting fieldwork
After gaining access to the field, the ethnographer can begin fieldwork as a participant observer, which I did in two schools. A third school was also in the pipeline, but the idea was discarded after a while because we had not managed to establish contact in order to make preparations for carrying out the study.
In the fieldwork, it is important to log as much as possible in the environment with the help of audio recordings, video recordings and field notes. In my work, a video camera that recorded both the audio and the visual was used and field notes were maintained. When doing classroom recordings, it is often an advantage if multiple cameras can be used to capture as much as possible from different angles. I used one camera and moved it occasionally to change the recording angle, and sometimes I used it only as a handheld camera, taking it wherever I was to record what went on there. I also carefully made notes in the field diary. These field notes consisted mainly of short entries, spontaneous thoughts and clarifications, which were written down in detail in the digital field diary on my computer later the same day. It is important to write everything down as quickly as possible while still fresh in the memory. This note making and later writing in detail were also the first step in the analysis and it helped me to go further because I could ask for clarifications or make adjustments during the next day in the field.

Ethnographers often also hold formal or informal interviews or discussions with different people in the research environment. I did not conduct any formal interviews with the teachers, pupils or families, but had several informal talks with them, which were recorded by hand and saved in the field diary. These conversations gave me a useful picture of what the teachers, resource persons and parents thought about various things and how they explained different activities and phenomena.

Close but distant
Ethnography is all about learning by doing (Ely et al. 1991, Whyte 1999), and to describe it, ethnographers have to in their work make the unfamiliar familiar, but also make the familiar strange (Wolcott 1999). As an ethnographer, one cannot go into the field and believe that one can passively collect data, because one always brings one’s background, personality, rules of social interaction and professional training with oneself (Agar 2008, Whyte 1999). For me, there were several things I needed to take into consideration before beginning my fieldwork in order to ensure that I could, as far as possible, be objective and have an open mind. First, there is the fact that I am deaf and a part of the Deaf community. This can be seen in light of the description in the introduction of the complex relationships between the Deaf community and cochlear implant technology. I have myself experienced the feeling that (hearing) people around me do not allow and fully accept that deafness can be positive and create togetherness and a sense of belonging to a community. Moreover, I have reacted negatively to cochlear implants when it has been highlighted as a solution for something that does
not work (i.e., the hearing). But I also know that technological development is ongoing; it is useless arguing against the fact that a large number of deaf children receive cochlear implants today, in the same way as it was to contest the development of the pole vault and the calculator. Children with cochlear implants exist and are increasing in number, and they are our future. This is a fact, and because I am a curious person, my starting point was precisely curiosity. I really wanted to learn more about this new group of children and their everyday lives, which were foreign to me. In a sense, one can also say that by focusing on children with cochlear implants, I confronted my own fears, and by unconditionally opening up my senses, I learned about a whole new world thanks to the opportunity of following these children in the course of the fieldwork.

But being overly familiar with the environment one studies can also be a barrier to research if it means that the ethnographer feels that he or she knows the answers in advance or feels too close, inclined, uninterested or subjective in understanding different situations (Ely et al. 1991). With this in mind, I considered the fact that, like the children I followed, I was during my childhood the only deaf pupil in a mainstream class with a resource person as support. Thus, I have been in a similar situation to these children, which may have influenced what I saw in the classrooms because the situation could be said to be familiar. But I am deaf and I used no hearing aids or cochlear implants to participate in spoken communication, so my experience of this school placement cannot be said to be the same as for children with cochlear implants, who have other interaction opportunities. Based on this fact, what might otherwise seem very familiar to me, I could make unfamiliar.

One final thing I needed to consider was my background as a teacher. I had worked at an upper secondary school for several years before starting my research work. This meant I was very familiar with the school as an institution, the variety of activities conducted there, the educational thinking, etc. I could easily have identified with the teachers and their ambitions to create accessible learning environments for the pupils, and thus I risked looking beyond what took place in the actual classrooms and interpreting different events and phenomena on that basis. I simply had to take off my teacher’s hat and try to make the school environment unfamiliar. It was, however, not as hard as one might think because the pupils I followed during the fieldwork were much younger than my upper secondary school students I had previously taught, and the environment was also quite dissimilar from the one I had worked in, where the classes were small and all pupils used Swedish Sign Language. The school environment in the project schools can therefore be said to be both close to and far away from me.
Another thing that ethnographers need to be aware of is that in one way or another, your presence will inevitably affect the research environment (Ely et al. 1991). I was very conscious of that when I began my fieldwork in the two classes. It was not just about what I brought in in terms of background and experience but also about visibility. The fact that I would come to the classrooms and stay there, bringing a video camera to record what happened, would have been a huge thing in itself. But I also brought two interpreters who would translate the spoken communication into Swedish Sign Language, making my presence even more visible to the participants in the classroom. I tried to ensure that only one interpreter was with me in the classroom, but it, nevertheless, meant that there was another adult there. The interpreters also became very visible by their use of the visual means of communication, and this resulted in some pupils initially focusing their attention on them. A few times the interpreters also became unintended participants in the ongoing instruction when the pupils with cochlear implants clearly directed their gaze at them to receive the translation of spoken Swedish, and sometimes when the teacher asked them to stand in front of the class because the resource person was not present in the room. These situations were surprising and unexpected, but became interesting in many ways in the later analysis. With this in mind, I could, despite what I wanted, not become almost invisible, and this surely has affected what took place in the classroom. However, after a surprisingly short time, the pupils stopped curiously glancing at us. To further reduce my visibility, I tried, as far as possible, to keep myself in the background even though I followed the pupils both during their breaks and at lunchtime or to the other places in the school where they had their lessons. I never helped the pupils with their schoolwork, and I avoided, as far as possible, maintaining eye contact with the resource persons and teachers so as to create an illusion that I was absent despite being very present with all my senses on edge. Sometimes I held the camera and pointed it to one side while I looked in another direction, and sometimes I left the camera on the stand recording, and sat or stood somewhere completely different so the participants would feel less like they were being recorded. Nevertheless, it is important to keep in mind that everyday life described in this thesis is precisely what Jonsson (2007) calls “an ordinary school day with a researcher paying a visit” (p. 56; my translation).

Ethical considerations

When conducting an ethnographic study, one often comes close to the people who live in the studied environment. It may happen that the researcher discovers things not intended for outsiders, that he or she may see
or hear things of a more sensitive nature or face different dilemmas that must be handled immediately without time for reflection. It is important to be sensitive to the people present in the environment and to interpret what is suitable or not in any situation. As an ethnographic researcher in school settings, I have seen many things that, as a human, deeply concern me, both things that warm the heart and delight, and others that cause hurt and pain. In this work, it is essential to treat the people in the environment with respect, remain neutral and not make up one’s mind about different issues that can surface. It is important to respond diplomatically to questions and avoid being judgemental to what is said. It is crucial to remember that everybody has good and bad days, that you sometimes say things you do not mean or act in a way you later regret. It is therefore important that the empirical data is handled with care and respect while having to also be analysed critically. The families and schools in this study have through their participation opened up to me and given me access to their daily lives, which demonstrates openness and courage, and it has contributed to an increased knowledge and understanding of what the everyday school lives of children with cochlear implants can be like. This, in turn, requires that I show respect when handling the empirical data.

During the fieldwork, I was struck by the parents’ openness and their concern for their children, how much goodwill and commitment the teachers showed and the resource persons’ awareness and knowledge. It became clear in both their conversations and actions that the adults want the very best for the children and they were in various ways trying to create an accessible learning environment for them; I fully respect these intentions. Against this background, it is important to emphasize that the purpose of this thesis is not to in any way criticize the parents, teachers or resource persons, but to problematize different patterns, behaviours and phenomena that occur in classrooms. That I take a critical approach to how interaction and communication function in the settings and discuss issues related to inequality and non-participation is, from theoretical starting points, all about trying to understand and question the complexity of the everyday lives that children with cochlear implants lead. It is not about singling out individuals, claiming that someone does not want what is best for the children, that someone is doing a poor job or saying that this school placement is wrong. When I analyse how teachers and resource persons handle and use different technologies, and the consequences it entails for the pupils, it is a problematization, and not criticism. By problematizing the actions, many questions can be raised, possibly leading to reflections and the development of new knowledge. In addition, particularly complex and problematic actions and situations that occur in everyday school life can be high-
lighted. Furthermore, when I critically analyse the communication in the classrooms, I am searching for language ideologies, and not for the individual’s own actions. Language ideologies are present in all communication, and even if everybody expresses, to some degree, normative beliefs about language, it is important to examine in depth ideologies that occur in classrooms, and analyse the effects they have on the members there. Only the ideologies are the object when studying communication from a critical point of departure. I have no reason to question the school staff’s professionalism and their commitment to the pupils, and this has not been the purpose of this study. Instead, I again want to emphasize the openness and generosity that all participants showed me during the study.

To ensure that research is conducted correctly and carefully, the Swedish Research Council stipulates some ethical principles which should be followed.\(^{18}\) Firstly, there are two basic criteria: the research criterion and the criterion of protection of the individual. These two criteria must always be balanced against each other. The research criterion means that members of a society have the right to demand that research will be conducted, that it focuses substantive issues and is of a high quality. The latter criterion is that individuals shall not be subjected to mental or physical injury, humiliation or abuse. The criterion includes four broad main requirements: the information requirement; the researcher has to inform those interested in participating of the purpose of the research study in question; the consent requirement; participants in a study have the right to determine their involvement; the confidentiality requirement; data on everybody in the study shall be treated with the utmost confidentiality and personal data should be stored in such a way that unauthorized persons cannot access it; and the utilization requirement; the data collected about individuals will be used for research purposes only.

These four main requirements have been taken into consideration when we, the members of the project CIT, prepared and conducted this study. As mentioned in the section Identifying schools and families, letters were sent via different gatekeepers to find interested families and schools and, therefore, they were completely anonymous to us until the families themselves made contact. In the letters, the purpose of the study was described, and it was also stressed that participation was entirely voluntary; they had, at any time, the right to withdraw their participation (see Appendices A–E). We also told the families and teachers more about the study when we first spoke and met, and we left it to them to determine whether there were any

\(^{18}\) See [http://www.codex.vr.se/texts/HSFR.pdf](http://www.codex.vr.se/texts/HSFR.pdf) and [http://www.cm.se/webbshop_vr/pdfer/2011_03.pdf](http://www.cm.se/webbshop_vr/pdfer/2011_03.pdf)
activities they did not want us to attend or any situations they did not want to be recorded. Furthermore, in both the letters and our conversations, we guaranteed them that the recorded material would only be used for research purposes, and all data would be protected so that unauthorized people could not use them. In addition, this project did not collect any personal information about any of the participants. Since the completion of the fieldwork, the recorded material has been stored in a locked safe in the ethnography lab at Örebro University. Finally, when presenting the results, the participants have been anonymized and the children given fictitious names. When we have used pictures of the participants, these have been scrambled to anonymize them. As for the schools, we have chosen to simply call them school A and school B and we do not reveal the children’s specific ages or geographical locations. Taken together, we have followed all the ethical criteria and requirements stated by the Swedish Research Council.

**Interaction data from two schools**

As mentioned in the sections above, I conducted fieldwork in two schools, schools A and B, which are located in geographically different parts of Sweden and are of different sizes. School A is in a small village, with classes up to Year 4, while school B is located in one of Sweden’s major cities, and has classes up to Year 9.

I have followed one class in each school, each consisting of 10–15 pupils. In Swedish terms, these are relatively small classes, which otherwise often comprise 20–30 pupils per class. There are certainly other schools in Sweden that have a small number of pupils, and where the classes are as small as the ones I followed, but here the schools have consciously endeavoured to create small classes based on the fact that a pupil with cochlear implants is a participant there. Age-wise, the pupils in the classes are of a similar age, but to reduce the risk of identification, the estimated age given here is between 7 and 11.

A pupil with cochlear implants, whom I call Ella, attends the class in school A, and another pupil with cochlear implants, whom I refer to as Maja, the class in school B. Both girls have bilateral implants; they received their first at the age of two, and the second, one or two years later. None of the girls have additional disabilities. Both Ella and Maja know Swedish Sign Language to some extent, but in the empirical data, they prefer using speech when communicating with others such as classmates and teachers in their environment.

The classes each have a main teacher who is responsible for the bulk of the teaching. However, Maja’s main teacher was taking a class at universi-
ty one day a week, and, therefore, the class had another teacher on this particular week day. None of the three teachers have experience of teaching pupils with hearing loss, and have no special education training or any knowledge of Swedish Sign Language, but have been teaching for many years. Before the pupils began, the teachers received information from SPSM’s advisers, the audiology departments and their parents, and they sometimes participated in courses or information days to learn more. The classes sometimes also had other teachers for specific lessons, such as music and sports, but none of them had any experience of pupils with hearing loss, nor of Swedish Sign Language. However, Maja’s class was regularly visited by a special education advisor for hearing-impaired pupils.

As a support in their school day, Ella has one resource person and Maja two; the latter share the job and are thus not present in the classroom simultaneously. The resource persons know Swedish Sign Language, but are not interpreters. Nor are they teachers, but they have some pedagogical training. Their task is to assist Ella and Maja during lessons and breaks, and they do this in different ways. Sometimes they visually (through signs or mouth movements) mediate what is said, and occasionally they check that the hearing technology works and help the pupils to adjust the volume of their implants or microphones. Sometimes they sit with the girls and help them with their work, explaining and clarifying, and giving additional explanations or visually repeating what other participants in the interaction say. It is also the case that the resource persons help other children in the classroom and thus become an additional support for the teacher, even if they are mainly employed to be available to Ella and Maja.¹⁹

The seating arrangement in both the classrooms are organized in a U-shape, allowing all the pupils to see each other (see Figure 2). The classrooms are also adapted to accommodate pupils with hearing loss. The furnishing is noise suppressing, and the ceiling has acoustic panels. In addition, hearing technology, such as teachers’ and pupils’ microphones, are installed. The teachers wear theirs attached to their clothes (school A) or as headsets (school B) and the pupils’ microphones are placed on a table in the middle of the room (school A) or carried around by the adults (school B). Other classrooms, e.g., the music room, the cafeteria and the handicraft room, are not adapted in the same way as the pupils’ home classrooms are.

¹⁹ This kind of resource person and his or her approach are not unique to these two classes, but common in Sweden, not only for pupils with hearing loss but also for other pupils who need different forms of support.
The empirical data used in this thesis comes from intensive participant observations of ten school days during the spring semester of 2011. This does not perhaps appear to be much, but from a micro-analytical point of view, the empirical material consists of a large amount of data: about twenty-five hours of video-recorded material, extensive field diary and digital photos. The classes have been followed throughout the school day, irrespective of the fact that it was an ordinary school day, a special activity or if someone was away or sick. The classes were followed even during their breaks and lunches, as well as during after-school care. Ella’s everyday life was also tracked during her leisure activities. The empirical data, therefore, consists of several interesting particulars that can be analysed. Based on the aim of the thesis, namely, to contribute to the knowledge of how everyday school lives might be for mainstreamed children with cochlear implants by analysing specific actions and phenomena, this video data is thus extensive. Consequently, we, the members of project CIT, had to select what should be analysed in each of the four studies, and there is much more of interest in the empirical data than can be covered in the context of this thesis. In the selection here, the interest is primarily recur-
ring patterns and phenomena in classroom interaction and how different types of resources – both material (e.g., microphones) and human (e.g., resource persons) technologies – were handled and used to enable pupils with cochlear implants to participate.

The interaction data was of specific focus in Studies III (Holmström & Bagga-Gupta submitted) and IV (Holmström, Bagga-Gupta & Jonsson submitted), which will be described in more depth below in the section The studies and in the second part of this thesis.

Methods for analysis of interaction data

Interactions in schools occur in and through conversations, different forms of writing, behaviours and bodily expressions. In addition, various kinds of mediating technologies are used, and a variety of activities take place. Classroom interaction can therefore be understood as very complex, with many things to consider, approach and analyse. Classroom research has, however, during the last decade greatly focused on what happens in speech and conversations (Sahlström 2008), and in analysing such communications, conversation analysis (CA) has often been used.\(^{20}\) CA has its roots in sociology and the method was developed mainly to study the patterns of social interaction (see, e.g., Martin 2004). The focus of CA was initially not really the conversation itself, but because early methods for data collection mainly allowed audio recordings, the interest switched to the very thing that could be analysed from these: the spoken conversation. CA is primarily based on the work of Harvey Sacks and Emanuel Schegloff, whose first studies principally focused telephone calls (see, e.g., Sacks 1972, Schegloff 1968). The use of CA involves a commitment to employ particular methodological principles. For example, in a CA analysis, one does not add assumptions about categories, identities and power structures, even if their existence is not denied (Martin 2004). Bagga-Gupta (2012, 2013) argues that such conversation analytic research has been characterized by an “oral language bias”, where the close analysis reports or represents human communication as spoken language only, while other modalities have been made invisible. She mentions that there is, in addition, a need to pay attention to other modalities of human interaction, such as the use of various technologies, body orientations, written language and different coexisting visually-oriented\(^{21}\) linguistic varieties. By examining what human beings do together (just as ethnographic researchers are trying

\(^{20}\) See also the earlier section The research field.

to do), the multifaceted variety and multimodal character of languaging can be illuminated, Bagga-Gupta claims. She also contends that research on reading, writing, bilingualism and communication disabilities has hitherto been often characterized by mono-dimensional linguistic norms and modalities, and by focusing on what is communicated in social practices, in what ways and in which communities of practice, it is possible to problematize these approaches. Such focus has also increased during the last few decades. A growing interest in visual elements has emerged, especially as new technologies, such as video cameras and computers, have developed (Jewitt 2009). With these technological developments, there followed an increased interest in other modalities and non-verbal communication (see, e.g., Sahlström 1999, Martin 2004). Multimodal analysis offers opportunities to identify more in the interaction and expand the social interpretation of language varieties and its meaning (Jewitt 2009). Overall, it can be said that multimodal analysis can give a more in depth understanding of how images, gestures, glances and other modal forms are used in special situations (e.g., in a workplace or school), as part of broader social and cultural work. Multimodality enables many other parts of the interaction, beyond the purely linguistic, to be made visible. In addition, it makes it possible to transcend the stricter CA frameworks and modify them so that the transcriptions can also include symbols of interaction, images and indications of how people are oriented to each other, and illustrate visual elements, etc. For example, in his transcriptions, Sahlström (1999) added pictures of hands and arms in order to show where in the interaction the pupils raised their hands. Another example can be found in Bagga-Gupta and St John (submitted), who, in their transcriptions, have added various symbols and images to give a more detailed description of what is happening visually in the interaction. Such larger transcription systems offer new possibilities for taking classroom research in general a few steps further, showing results in a clearer way when visual orientation and mediating technologies are also given space in the analysis and transcription.

In the analysis of the video data from the fieldwork, we understood at an early stage in project CIT that the complexity of the interactions offered

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22 By “languaging”, I mean verb-focused aspects of language in use (see Bagga-Gupta 2013).

23 Within the research group CCD (Communication, Culture and Diversity; Swedish acronym: KKOM-DS) at Örebro University, of which I am a member, there is a common interest in multimodal analysis and several works and methods have been produced (see, e.g., Bagga-Gupta 2012, 2013 in press, Bagga-Gupta & St John submitted, Messina Dahlberg & Bagga-Gupta 2013a, Gynne & Bagga-Gupta 2013 in press).
by the ethnographic approach could not be easily captured in current transcription systems (for example, traditional CA analysis). Therefore, we took a completely explorative approach in the transcription work. We realized that we needed to include more modalities, but we had no pre-determined thoughts or ideas about how they could be performed. Hence, we began to try with more traditional CA analysis and added descriptions of what was going on visually in double parentheses in the transcriptions; however, it soon became apparent that this approach was not sufficient to represent aspects of what was going on, and it was hard to represent everything that happened visually. In addition, there were sometimes parallel conversations in both speech and sign language with different content that was not interpretations, and both dimensions of this communication needed to be transcribed and analysed in some way. Another thing revealed in the analysis after I had left the field was my obvious preference for recording what happened visually. Perhaps, because I am deaf, I mostly followed what my eyes saw, and let the camera capture what the eyes registered rather than what was communicated through speech. This meant that with the camera, I often, from a distance, zoomed in on different situations, activities and interactions between participants, but it was also at times impossible to hear what they said to one other in spoken communication. Sometimes the background noise was also too loud, so none of the spoken communication could be distinguished from what the camera’s audio microphone had picked up. Due to this, we realized that we had to explore another way to transcribe the data to represent significant aspects of the visual interactions which took place. In this process of creating a viable transcription system for the data, we started with excerpts where no spoken communication could be distinguished. We tried to divide the interaction into different phases and looked at what the different participants were oriented towards during various phases, and what they did (see, e.g., Study III, Holmström & Bagga-Gupta submitted). But this system did not work when both spoken and visually-oriented communication were used in parallel. Therefore, we turned to transcription systems used by Signed Language researchers and became inspired by these; when transcribing Signed Languages, horizontal rows under each other are used to represent what is happening at the same time, such as in the hands, eyes, head and body. This transcription system is very detailed, as are CA transcriptions, and when we tried to combine them in order to record both spoken and visually-oriented communication, we had to decide how much detail should be allowed. In addition, we wanted to represent different participants’ bodily

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24 Also Sahlström (1999) use horizontal rows in his transcriptions.
orientation, the use of technologies and other activities performed in the settings. We explored several different methods and systems, finally choosing one that worked for the purposes of our studies (see Figure 3).

<table>
<thead>
<tr>
<th>Turn</th>
<th>Time: 0–9 seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Maja</td>
<td>Oral communication</td>
</tr>
<tr>
<td></td>
<td>English translation</td>
</tr>
<tr>
<td></td>
<td>Signed communication</td>
</tr>
<tr>
<td></td>
<td>Body orientation</td>
</tr>
<tr>
<td>RP</td>
<td>Oral communication</td>
</tr>
<tr>
<td></td>
<td>English translation</td>
</tr>
<tr>
<td></td>
<td>Signed communication</td>
</tr>
<tr>
<td></td>
<td>Body orientation</td>
</tr>
<tr>
<td>Classmates</td>
<td>Oral communication</td>
</tr>
<tr>
<td></td>
<td>English translation</td>
</tr>
<tr>
<td></td>
<td>Signed communication</td>
</tr>
<tr>
<td></td>
<td>Body orientation</td>
</tr>
<tr>
<td>Teacher</td>
<td>Oral communication</td>
</tr>
<tr>
<td></td>
<td>English translation</td>
</tr>
<tr>
<td></td>
<td>Signed communication</td>
</tr>
<tr>
<td></td>
<td>Body orientation</td>
</tr>
</tbody>
</table>

**Figure 3. Transcription template**

Figure 3 includes one interaction turn, numbered 1 in the left column. In each turn, there are four blocks, each representing the participants in the classroom. The classmates are, of course, several actors, but have only one block representing them all. This was because it was not of major interest who was doing what, but rather what the interaction looked like. Each block has four rows: oral communication, English translation, signed communication and body orientation. The rows are placed under each other and show what is happening in parallel. Sometimes each row has two
lines of information, e.g., when the upper line shows what the pupil says and the line below indicates whether the voice is high or low pitched. In the row for body orientation, the upper line shows how the gaze is directed, and the bottom line gives more information, such as whether the teacher holds up a book or is writing on the board. This row, therefore, includes a little more information than just the principle participants body orientation in different activities. The oral communication has been transcribed using CA as a starting point and translated into English in the next row in the same way. The sign language communication is transcribed, with the signs represented by English words in capital letters.

Of course, the transcription system developed here could have contained more details and modalities to further capture the complexity of the interaction. For example, it could have had images or graphics clearly showing the interaction or to demonstrate how learning materials, computers and whiteboards are used. But the more emphasis put on representing all the details, such as different modalities, activities and facial expressions, the harder it can be to paint a bigger picture of the ongoing interaction. We, therefore, chose to limit the system to these four lines and hope that the transcription system can be further developed in future work.

Archival material from three national NGOs

As mentioned earlier, the empirical data in this thesis comes from two different types of material. This allows for examining the study’s aims from varied perspectives over time. In the previous sections, the focus has primarily been on data from video recordings and fieldwork at two schools since this was principally the main subject matter of the thesis. However, as described in the section Identifying schools and families, project CIT had difficulty getting access to families and schools that were interested in participating in the study, and because of the time frameworks of the project, we needed to go ahead and find alternative ways. One such alternative was to turn to the national associations for parents who have children with cochlear implants. In Sweden, there are, as previously mentioned, two such

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25 When doing transcriptions, we have worked in several different ways. In the first attempts to use CA analysis, I worked together with the project’s sign language interpreters to transcribe the oral conversations. In Study III (Holmström & Bagga-Gupta submitted), my co-author, who can hear and knows Swedish Sign Language, primarily did the audio-transcripts while I did the visual and we both then put them together to synchronize them. Finally, in Study IV (Holmström, Bagga-Gupta & Jonsson submitted), I again collaborated first with the interpreters to transcribe the oral conversations and then my co-authors worked further with these transcripts and we all worked together to synchronize all the elements.
parents’ associations: DHB and Barnplantorna. Both organizations publish periodicals, and since project CIT, just like other ethnographic projects, is also interested in other kinds of data, such as archival material, printed sources and material artefacts, that provide the fieldwork with valuable and complementary information (see Hammersley & Atkinson 2007), we decided to explore the NGOs periodical archives (from their establishment until 2010). We hoped that by doing so, we would get an insight into the historical changes that occurred and how informants themselves perceived things, which would create a sociohistorical understanding and context for the interaction study. Also Hammersley and Atkinson (2007) argue that it is important to use other kinds of data in ethnographic studies, claiming that if documentary material is not taken into account, one would miss important features in a literate culture. From this perspective, the periodicals give us an opportunity to look back to see how different topics and discussions have taken place over the years. They paint a picture of how old discourses change and new ones emerge, and the voices in the periodicals provide an understanding of how technologies have over time related to, and interacted with, people with hearing loss. In addition, the periodicals give an insight into discussions about, and negotiations of, identity and how the preference for various types and forms of communication has changed during different periods in Sweden. Moreover, they show when and how cochlear implants are implemented and become more important, and how this in various ways influenced the previous discourses, ideas and knowledge.

To conduct the archival research, we contacted both the parents’ organizations and asked whether we could gain access to their periodical archives (see Appendix F). DHB replied that its archive was located at its headquarters, and we were welcome to carry out the work there. The periodical was established in 1972, but the archive’s holdings of issues were from 1977 onwards. Barnplantorna informed us that all its periodicals, from the first issue in 1995 and onwards, were available electronically on its website. Given our interests in gaining an insight into the informants’ own perspectives, we also wanted to add another organization, one that focuses on people who have hearing loss. The choice fell on SDR, whose periodical was established in 1891. After contacting this organization, we were allowed access to conduct research in its archive too.

The three NGOs together cover a large time span and provide considerable data; to limit the amount of issues to a manageable size, seven decades were selected, which then became the focus when conducting the archival work. The seven periods were chosen based on various key events and discussions during different decades (see Figure 4).
### Decade | Background to selection
--- | ---
1890s | - The first periodical for the deaf in Sweden was founded.  
- The oral teaching method dominated in Europe after a congress in Milan for teachers of the deaf.  
1920s | - Deaf people in Sweden formed a national association.  
- Another periodical for the deaf was founded in Sweden.
1950s | - There was rapid technological development.  
- An advanced hearing aid was developed.
1970s | - Integration of the deaf and hard-of-hearing was debated.  
- Research on Swedish Sign Language began at Stockholm University.  
- The Deaf movement grew strong.
30 See, e.g., SOU 2006:29.  
31 This is evidenced by various texts and documents in the archive data that indicate a struggle for the right to Signed Language, the creation of “deaf consciousness”, etc. See, e.g., Lundström (1997), SOU 2006:29, Jacobsson (2000).
1980s | - The schools for the deaf became officially bilingual, with Swedish and Swedish Sign Language as the languages of instruction.
1990s | - Cochlear implant surgery on children began in Sweden and caused debates between proponents and opponents.
33 See Jacobsson (2000).
2000s | - Most children who were born deaf received cochlear implants at an early age.  
- School placements for children with hearing loss become varied.

Figure 4. Selection of periods

After selecting these seven decades, an ethnographic review was conducted of all the periodicals in the archive sites, i.e., I did not decide in advance what I wanted to find out, but sat down with all the issues from the select-
ed periods, turning page after page while trying to be as open as possible to the material, and letting the data lead me to interesting findings. Nevertheless, I outlined three preset criteria that were used to identify particularly interesting materials: a) recurring themes, b) widely covered issues, and c) content that in any way involved communication, identity and technology themes. Of course, I was also interested in all articles that focused on cochlear implants in any way.

The archival fieldwork resulted in data consisting of about 2 000 articles\textsuperscript{36} from the three journals, which was stored for analysis in the form of copies, photos or printouts. The data distribution between the journals is illustrated in Figure 5.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure5.png}
\caption{Distribution of the organizations’ articles over time}
\end{figure}

The largest amount of data naturally comes from SDR, whose periodical has existed since 1891. The proportion of articles from DHB and Barnplantorna is roughly the same.

After the creation of data, the categorization work began, which involved reading all the articles again. No predefined categories were used, but the articles were sorted one after another into different stacks. In this

\textsuperscript{36} These include editorials, readers’ letters and reports without any distinction between the different types of data; everything has been referred to as “articles”.

74  |  INGELA HOLMSTROM  |  Learning by Hearing?
sorting, it appeared that many articles overlapped each other; to enable an analytical approach to the material, a main categorization of each article was therefore done; it was thus the article’s central or principal theme that determined which stack it was placed in. The categorization work resulted in seven main categories, as illustrated in Figure 6.

![Figure 6. Distribution of archival material into categories](image)

The seven categories were Identity, Communication, Technology, School, Family perspectives, Debate on CI and Other. The category Technology emerged as the largest category with 38% of the total amount of data, followed by School with 26%. The empirical material from the archival data and the categories identified above have formed the basis for the thesis’s Study I (Holmström & Bagga-Gupta 2013), where my co-author in the project CIT and I focused in the analysis of the three categories Technology, Communication and Identity, and for Study II (Holmström submitted), where the category School was analysed. The two studies together cover the four largest categories in the archival data and will be further described below in the section The studies and in the second part of this thesis.

**Summary**

This thesis’s empirical data has been created within the framework of project CIT using an ethnographic approach and consists of two different types of material: a) interaction data from two mainstream classrooms in
two different Swedish schools where one participant in each class has cochlear implants, and b) archival data from three Swedish NGOs’ periodicals (the period covered is 1891 to 2010). Multimodal micro-analyses have been used to examine the interaction data, and sociohistorical analyses for the archival data. Because the articles from the NGOs’ periodicals give a background and context to the contemporary situation in Sweden for children with cochlear implants, the research started with the sociohistorical analyses of archival data in Study I (Holmström & Bagga-Gupta 2013) and the first part of Study II (Holmström submitted). In the second part of Study II and in Studies III (Holmström & Bagga-Gupta submitted) and IV (Holmström, Bagga-Gupta & Jonsson submitted), micro-analyses of the interaction data were conducted. Taken together, the twofold empirical basis has given the thesis depth and substance and produced a comprehensive picture of the development and current situation regarding issues related to technologies and forms of communication in use, and on how these relate to identity positioning in different communities of practice.
The studies
In this section, I will briefly describe the four studies conducted within the framework of this thesis. Taken together, they form a whole. Moreover, they are interrelated, which will be expounded in the following.

As mentioned earlier, a particular interest of this thesis lies in the interaction in mainstream school settings where one pupil has cochlear implants, and in different technologies and their relationship to communication and identity. Based on this focus, the work started with a sociohistorical analysis of three national NGOs’ periodicals in Study I (Holmström & Bagga-Gupta 2013). Of interest were the categories Communication, Identity and Technology, with the aim of creating a sociohistorical context that the other studies could be understood against. In Study I, it becomes clear that various kinds of technologies have attracted considerable interest over the years and these shape human communication and identity in different ways. The sociohistorical perspective continues in Study II (Holmström submitted), with a focus on schooling and school placement issues. Here the analysis of archival data forms a context against which the contemporary situation where pupils with cochlear implants are increasingly placed in mainstream schools rather than in special schools can be understood. In Study II, the focus is also on communication and participation, and through a micro-analysis of interaction data from two mainstream classrooms, a very complex everyday school life of pupils with cochlear implants is outlined, where no forms of support can be taken for granted.

In Study III (Holmström & Bagga-Gupta submitted), the focus is more specifically on communication issues. The two mainstream classrooms in the project are the study’s starting point. The study identifies various technologies used for communication in the classrooms, communicative strategies used by pupils and adults there and different identity positions that emerge for pupils with cochlear implants in the interaction. The results from Study III indicate that the hearing assistive technology had a special position in the classroom, which influenced the communication, interaction and participation in various ways, and, therefore, the focus in Study IV (Holmström, Bagga-Gupta & Jonsson submitted) was more specifically on how the technologies were handled and used in classrooms. Study IV highlighted that it was primarily the adults in the classrooms who decided how and when the technologies should be used, and spoken communication was preferred to visual communication. This fact also had significance for the participation and identity positioning of the pupils with cochlear implants. Overall, the results from Studies III and IV indicate that by using different audiologically- and visually-oriented technologies, the pupils with cochlear
implants are active and committed communicators and participants in the classrooms, but also their participation in several ways becomes limited by these technologies and by how they are handled and used by the adults in the pupils’ school environment. Moreover, the studies demonstrate that the pupils themselves have to take responsibility for their participation by being active and alert and by defending their right to keep up with the communication, something which gives them a different position in the classroom in comparison to their hearing peers.
Study I:


Holmström, Ingela and Bagga-Gupta, Sangeeta

Study I focuses on how technologies are related to communication and identity issues in deaf people’s everyday lives from a sociohistorical perspective. The study examines how the Deaf community reacts to, accepts or rejects different mediating technologies that over time are developed both generally in society and specifically for the deaf.

Study I is based on archival data from the periodicals of three national NGOs: SDR, DHB and Barnplantorna. The empirical data is created by an ethnographic approach and the analysis is based on articles in three main categories in the archival data: Communication, Identity and Technologies. In the analysis, recurring topics, widely covered issues and explicit content related to communication, identity and technology are explored.

The study’s results show that from early on the Deaf community (pri-


arily represented by SDR) has been very interested in different types of technologies during all the periods, with a preference for visually-oriented technologies. DHB also expresses an interest in different types of technologies with the same preference, but Barnplantorna appears to be solely interested in audiologically-oriented technologies. Concerning communication, the analysis shows that different forms of communication, i.e., visually-oriented and audiologically-oriented, have occurred during various phases and the preferences have changed both within and among the NGOs. Finally, the analysis results indicate that SDR and DHB are interested in how a person with hearing loss functions (sight and touch) and how a lack of hearing can be compensated for, but Barnplantorna focuses on what is lacking or works less well (the hearing) and how it can be repaired. To summarize, the analysis illustrates that the NGOs show similarities and differences in the themes which occur, and over the years, there have been many connections between communication, identity and technologies.
Study II:
Mainstream school placement of children with cochlear implants: Socio-historical and contemporary perspectives (Submitted).

Holmström, Ingela

The contemporary situation in Sweden, in which pupils with cochlear implants increasingly receive their schooling in mainstream school settings, is in Study II put in relation to previous school issues from a sociohistorical perspective. Here a twofold empirical basis is used: a) archival data from the periodicals of three national NGOs: SDR, DHB and Barnplantorna, and b) interaction data from two mainstream Swedish classrooms that each have one participant with cochlear implants.

In Study II, I first examined recurring school-related themes in the periodicals during different epochs. Thereafter, I looked at the connections between the archival and interaction data to create a sociohistorical understanding of current phenomena in the education of pupils with cochlear implants. Finally, I conducted a micro-analysis of the everyday lives of two children with cochlear implants and their participation in the classroom interaction in order to give a glimpse of what the mainstream school placement can be like for children with cochlear implants.

In the analysis, two major recurring themes were found in the periodicals: 1) forms of communication in teaching, and 2) integration issues. The results illustrate that language ideologies exist in deaf schools, but they become favoured forms of communication in teaching during different decades; spoken, mixed and signed communication are preferred and highlighted in various ways. Mainly, it is a double monolingualism norm that appears, but a polylingual approach also occurs during the 1970s. Furthermore, the analysis shows that integration issues are mostly about diverse perspectives on participation in different communities of practice where the membership can be full or peripheral. It is in Barnplantorna’s periodical that the schooling of children with cochlear implants is of specific focus, and there a change can be seen between 1995 and 2010, from a school placement in deaf schools to alternative school placements to individually integrated schooling. Such individually integrated schooling is examined closely in the micro-analysis of the interaction data, which shows that resource persons (as a communicative-link technology) may be crucial in many ways for pupils with cochlear implants and their classroom participation. In addition, the study illustrates that such an individually integrated school placement requires hard work and great commitment from both parents and the children with cochlear implants themselves.
In Study III, we examine communicative strategies used in classrooms by pupils with cochlear implants, their classmates and other adults (i.e., teachers and resource persons). The issues in focus are: a) which different technologies appear in the school settings and how do these relate to communication and identity issues, b) in what ways do various technologies enable or limit the classroom participation of pupils with cochlear implants, and c) how do the technologies and communication strategies in use shape different identity positions for pupils with cochlear implants.

The empirical data in Study III is created by an ethnographic approach in two mainstream Swedish classrooms that each have one participant with cochlear implants. Here we also develop different multimodal transcription models and use video recordings, digital photos and field notes from the fieldwork in the analysis.

The results illustrate that there are a range of communicative strategies used, both by the children with cochlear implants and the adults in the classroom. Some of the strategies used by the former are: a) asking the teacher “what-did-he-say”-questions during ongoing discussions, b) adjusting their technology (e.g., raising and lowering the volume of their implants), c) being visually attentive to the speaker, d) observing their classmates, e) seeking eye contact with the resource person for support, and f) asking for clarifications during and after different activities. The adults use strategies, such as a) repeating what the pupils say, b) asking the pupils to speak louder, c) speaking loudly and clearly themselves, and d) controlling how technology is used (e.g., determining whether the pupils’ and teacher’s microphones are on or off).

The results also indicate that the children with cochlear implants are largely responsible for their own participation in interaction and communication and they have in many ways different identity positions in comparison to their hearing classmates.
Study IV:

*Communicating and hand(ling) technologies: Everyday life in educational settings where pupils with cochlear implants are mainstreamed* (Submitted).

Holmström, Ingela, Bagga-Gupta, Sangeeta and Jonsson, Rickard

Study IV focuses on how mediating technologies are handled and communicated in classrooms where one participant has cochlear implants, and how these in different ways create opportunities but can also lead to barriers for participation for these pupils in their everyday lives. More specifically, Study IV examines how different participants handle and use various technologies, what forms of communication occur in the classrooms, whether there are examples of language ideologies in the classrooms and whether the children’s access to classroom communication is dependent on the adults’ actions.

The empirical data used in Study IV is based on fieldwork conducted in two mainstream Swedish classrooms that each have one participant with cochlear implants. The study has an ethnographic approach and a multimodal analysis is used to answer the study questions.

We found in Study IV that hearing assistive technologies are largely used and focused on in the classrooms, and these control the interaction in different ways, e.g., by regulating the order of communication. We also observed that it is mostly the adults who determine how and when the technology shall be used, not the pupils with cochlear implants themselves. For instance, the adults often decide when the microphones should be on or off and can adjust the pupils’ implants with a remote control. Another finding is that there are examples of a language ideology in the classrooms, where spoken communication is preferred to visual communication; what is orally said is intentionally or rather inattentively regarded as the most important communication by the adults in the classrooms. Within this language ideology, a “normal hearing child” is also constructed, and children with cochlear implants are taught and addressed in relation to this in the classroom.
Learning by hearing?

In this section, I will bring the aims of the thesis together with the analyses of the empirical data and its results in order to discuss them. In this discussion, I use the previously described theoretical starting points and the results of the four studies (summarized above in *The Studies*). The following section consists of four parts, starting with a connection to the main title of the thesis, namely, about the issue of “hearing”, and the three following parts will, in turn, explore the thesis’s more specific communication, technology and identity issues, where I point out some of the most prominent things that have emerged in this research.

“Hearing is about communication”

The above heading comes from an article in *LiU Magazine* [37 (No. 2 2010)] about a new research field: cognitive hearing. The title captures a common idea about what hearing means to human beings, something that also appears in the archival data. In the article, the writer’s starting point is a truth taken for granted and presented unreflectively:

> Hearing plays an important role in our communication with others. *When our hearing fades it affects the quality of life*. We become unsure of whether we correctly perceive what people say, find it harder to take part in conversations and can become isolated in social contexts (*LiU Magazine*, p. 19; my emphasis).

The citation from this magazine is an example of what the analysis of archival data indicates: a common idea that hearing is necessary for a satisfactory quality of life, where spoken communication is the obvious means for interaction and participation – and, from a sociocultural perspective, thus also for learning. Moreover, the citation can be said to reflect a common, general and historical view that deaf peoples’ lives probably must be quiet, sad, lifeless and empty (see, e.g., Baker 2010). However, as shown both in the analysis of archival data and in previous research presented in the background section of this thesis, there exist very different perspectives on the implications of living with hearing loss. The writer of the article mentioned above expresses one view, where the starting point actually is an adult who has lived his entire life as a hearing person, and imagines what would happen if his hearing became impaired. But for children born with hearing loss, the starting point, however, can be quite different. They grow up with their hearing loss and may not know any other way to live and communicate than what they have learned during their childhood. For

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[37] LiU stands for Linköping University.
them, hearing loss can be experienced as a part of them – something “normal” (see, e.g., Lane, Hoffmeister & Bahan 1996, Padden & Humphries 1988).

It is important to keep this in mind when examining the everyday lives of children with cochlear implants. It is reasonable to assume that they, just like other people growing up with hearing loss, may experience their everyday lives at home and in school as normal, although for an outsider, it can be perceived differently.

But even if children with cochlear implants may experience their everyday lives as natural and normal to them, it, nevertheless, does not mean that their interaction with others in their environment is thus “unproblematic”, as the analysis of the interaction data indicates. It is largely dependent on the people around them and their knowledge and understanding of hearing loss – and what sort of communication and interaction they offer. Ella’s parents express this as problematic in a conversation I had with them during my fieldwork:

There are so many adults around us, such as Ella’s friends’ parents, her grandparents and other adults who think Ella hears so well. They do not understand that Ella speaks very well, but she does not hear everything and cannot keep up with all the communication. They do not understand that they have to ensure that they have eye contact with Ella before they talk to her, and they cannot call out to her in all settings. Other people think that everything is so good and have difficulty understanding that she does not actually hear everything (Parent reporting, noted in field diary, April 2011, my translation).

The problem that other adults do not understand the difficulties also appeared in my fieldwork when I observed a leisure-time activity involving Ella and her friends playing. There Ella’s father and a mother of one of her friends participate, and in a conversation with me, the mother said that Ella worked just like all other children, and there was nothing strange or different about her. “She is just like any other child”, she said. But Ella’s father heard her and disagreed; he said that he thought Ella might understand only half of what was said, but she, nevertheless, was trying to keep up with the game.

This is an important point from a sociocultural perspective which postulates that learning takes place in interaction and communication with others. If children with cochlear implants are only offered spoken communication from most people around them in their everyday lives, but cannot perceive everything that is said verbally, as the studies in this thesis show, it may obviously affect their long-term learning.
A polylingual approach to communication

As mentioned above in the section Study aims, one issue (B) in this thesis is to examine what forms of communication are prevalent and are preferred over time in the periodicals and classrooms, what language ideologies emerge and how these affect everyday communication. From my point of departure, namely, a sociocultural perspective, communication is essential for learning in social interaction. By communication, I do not strictly mean the use of one or more language varieties and nor do I address bilingualism in a linguistic perspective. In this thesis, communication is framed in terms of interaction: it is the interplay between people where the participants strive to understand each other with the help of all the means at their disposal, regardless of whether they use spoken language, sign language, a mixture of different languages and language varieties, body expressions or physical artefacts, such as pen and paper or computers. I argue that human beings have an inborn desire to communicate with others in their environment and this desire is beyond linguistic norms. When people who do not share the same language variety or language modalities meet, attempts to communicate will sooner or later take place. Here the starting point is often the linguistic resources most immediately available to the individuals, which sometimes can lead to rather comical situations. An experience from my own everyday life is that a (hearing) Swede often uses English when communicating with a person who does not know Swedish. But this also frequently results in many (hearing) Swedes trying to speak English to deaf (Swedish) people, something that often fails because deaf people assume that the lip movements are in Swedish, and thus what is said becomes harder if not completely incomprehensible to understand. The resource (spoken English) that the (hearing) people here may feel is most readily available when one does not share the same language variety fails, and to achieve communication, they have to change strategies, e.g., by trying other resources, linguistic varieties, body expressions or artefacts.

Despite my argument that human beings primarily want to communicate with one another and, therefore, change strategies and use different resources, the subjective starting points may create language ideologies which underlie interactions. This means that one language variety or form of communication is considered better or worthier than another. As illustrated in the analysis of archival data from the NGOs’ periodicals from 1890s onwards, a spoken language norm has been present, which means that it is primarily through speech and hearing that people should communicate, regardless of their opportunities to do so (see Study I [Holmström & Bagga-Gupta 2013] and Study II [Holmström submitted]). From this point of view, technologies, such as hearing aids and cochlear implants, have, as the
analysis of the archival data shows, understandably been welcomed by many people as important tools providing deaf and severely hearing-impaired people with greater opportunities to participate in spoken communication. The archival data also indicates that many (hearing) people seem to put their confidence in technologies to solve communication problems with people with hearing loss rather than change their communication strategies. Nevertheless, the hearing technologies have not always been adopted by people with hearing loss as the primary means for communication. Instead, the Deaf community has, as both the archival data and several researchers illustrate, highlighted Signed Language as a common denominator for deaf people, providing a sense of community and belonging that the spoken language has not been able to give them (see, e.g., Baker 2010, Blume 2010, Ladd 2003, Paludneviciene & Leigh 2011). In Sweden, the Deaf community’s struggle to ensure that Swedish Sign Language has the status of a fully fledged language variety was met in the school context by way of Läroplan för Specialskolan (the Curriculum for Special Schools) in 1983. In this curriculum, Swedish and Swedish Sign Language officially obtained equal status as languages of instruction in deaf schools. But as shown in Study II, during the latter part of the 1980s and the 1990s, the language norm in this school form became almost the opposite compared to earlier decades due to the fact that Swedish Sign Language became established as the language of instruction for the deaf, while spoken Swedish (unlike written Swedish) was pushed into the background.

These examples from both the archival material and previous research illustrate a long history of a community and school in which linguistic norms, ideologies and power relations have flourished. Also in the interaction data from the classrooms, we have found that there is a primarily spoken language norm in the instruction and interaction, something particularly shown in Studies II (Holmström submitted) and IV (Holmström, Bagga-Gupta & Jonsson submitted). However, I argue that because human beings want to communicate, she will eventually use all her resources available. In interactions where one or more of the participants have hearing loss and the spoken or sign communication is not fully sufficient, one way to communicate is to mix resources from both the languages and use them simultaneously. This is possible because the languages use different modalities, i.e., the voice, hands and body. Nevertheless, this mixing also means many adjustments and certain parts of each language cannot be used. Like Jørgensen (2008), I consider this form of communication polylelingualism, where the participants make use of all resources available
while being aware that it is a matter of communicating in the current interaction and not about using “pure” languages.38

During the fieldwork, I noted that mixing sign and speech was a common feature in interactions where Ella and Maja were participants, primarily used by the resource persons and the children’s parents (see particularly Study II). This finding is in keeping with what previous studies, mainly based on interviews and questionnaires, have shown (e.g., Hyde and Punch 2011, Sume 2010, Watson et al. 2008, Wheeler et al. 2007). Knoors and Marschark (2012) argue that this mode of communication has become more widespread today, claiming that children with cochlear implants can benefit from using sign language as a support to spoken language. This idea of sign language as a support to spoken communication is a common description among researchers in this field, and although I agree with Knoors and Marschark that children with cochlear implants can have more opportunities to participate in different forms of communication by using sign and speech simultaneously, I reject the description of sign language as a support to spoken language. To treat a language variety as an “auxiliary language” to another reflects, from a postcolonial perspective, a language ideology where one language variety is considered “better” and more valuable than another. Instead, I argue that the phenomenon should be considered a polylingual approach where different linguistic resources can be used in various ways to get a current communication situation to work. Nevertheless, if the children are to benefit from using different linguistic resources and be able to mix them and select and adapt forms of communication based on context, they also need access to the various language varieties in their natural environments. Therefore, if the children are given opportunities to interact with others in both spoken and sign language settings, their linguistic knowledge of the different languages will develop. However, as the analysis of both the archival and interaction data indicate, it is not easy for children with cochlear implants to gain access to environments where Swedish Sign Language occurs naturally when they have a mainstream school placement in which they cannot interact with peers who use this language. This inevitably leads to their interacting with others mostly through spoken Swedish, although they may have trouble hearing and understanding it when there is background noise, and their opportunities to benefit from a polylingual approach to communication (and hence to learning) will therefore be limited.

Technologies are obvious – but not how they are used

Human beings interact with different mediating technologies throughout their everyday lives. Technological development is constantly ongoing, and in line with this, people have to confront new and more-advanced technologies. As mentioned earlier, one issue (A) this thesis examines is to find out what kind of technologies are particularly prominent in the periodicals and classrooms, and how they are handled and used over time. The archival data from SDR’s periodical reveals that the Deaf community has over the years had an open and curious approach to different types of technologies (Study I [Holmström & Bagga-Gupta 2013]). Often the Deaf community has been at the forefront and embraced new technologies faster than society in general (see also Dillehay 2011). This openness to technologies, Study I shows, has largely focused on those that are primarily visually-oriented, i.e., those that primarily support and use sight: TVs, cameras, fax machines, etc. But the Deaf community has also in varying degrees been interested in audiologically-oriented technologies, i.e., those that are primarily useful for hearing, even if they are perhaps experienced as not being useful to people who do not hear. For example, this was the case with the telephone, which for a long time was only audiologically available. Only with the advent of text telephones and later video and mobile phones, did this technology also become visually available and adopted by the Deaf community. Other audiologically-oriented technologies that have been developed are hearing aids and cochlear implants. Interestingly, these audiologically-oriented technologies were developed specifically for deaf people and were certainly noticed and discussed, but were met with much lesser interest than visually-oriented technologies in the archival data from SDR’s periodical. Nevertheless, as discussed in the section Complicated relations – technology vs. the Deaf community, the use of hearing aids and cochlear implants became widespread, which from a postcolonial perspective can be seen as being the dominant forces in society that have railroaded through implementation without considering the Deaf community’s interests and reservations (see, e.g., Blume 2010). This led to these audiologically-oriented technologies becoming negatively charged, resulting in tensions between different advocates. Such expressions continue to be found in the NGOs’ periodicals during the 2000s, although SDR’s official stance has changed; it now says that it is not against cochlear implants but emphasizes the importance of children with cochlear implants gaining access to Swedish Sign Language.

In light of the historical development framed by the analysis of archival data, a deeper understanding is provided of how the Deaf community has both embraced and imposed different types of technologies. Moreover, it
appears that people with hearing loss to a large extent, perhaps more than others, interact with different technologies both inside and outside institutional arenas, something which researchers, such as Bagga-Gupta (2004b), have also shown. Further, in the analysed interaction data, it appears that children with cochlear implants primarily participate in the interaction with the help of a range of mediating technologies that in Study III (Holmström & Bagga-Gupta submitted) are described as hearing-related technologies (e.g., microphones and loops), literacy-related technologies (e.g., SmartBoard and alphabet pictures) and communicative-link technologies (e.g., resource persons, poster with the hand alphabet). It is principally the hearing-related and communicative-link technologies that distinguish these classrooms from others in Swedish schools.

This thesis also examines how the technologies in use enable or limit the interaction and participation of people with hearing loss, especially pupils with cochlear implants (issue C). Results from particularly Studies III (Holmström & Bagga-Gupta submitted) and IV (Holmström, Bagga-Gupta & Jonsson submitted) illustrate how the types of technologies used and managed in the classrooms enable the participation of pupils with cochlear implants by structuring the classroom talk, the adapted sound environment and the visually mediated communication that the resource person enables. But the analysis also shows that the use of technologies, rather, sometimes creates obstacles for the pupils’ participation, making it difficult for them to become full members of the classrooms’ communities of practice, e.g., when the adults switch the microphones off when the pupils work individually or when communication is not primarily directed at the pupil with cochlear implants, a routine that limits the input of communication for these pupils. Another example is when the resource person chooses, for a range of reasons, to not visually mediate the communication (see Studies II, III and IV), the pupils have to rely on their hearing to perceive what is communicated. From a postcolonial perspective, these actions can be understood as unequal power relations; it is the adults in the classrooms who decide how and when the technologies should be used. By switching the microphones off or using remote controls to raise or lower the volume of the cochlear implants, the adults can manipulate the hearing of pupils with cochlear implants in a way that hearing pupils’ hearing cannot be.

Interestingly, in their article, Jachova and Kovacevic (2010) advise teachers who have pupils with cochlear implants that the classroom’s FM transmitter should only be turned on when the teacher speaks directly to either the pupil or a group that includes the pupil with cochlear implants. They, however, do not explain why this is important, but argue that this approach, together with other pieces of advice they list, will mean that
pupils with cochlear implants will thus be “able to engage more successfully in learning and in interactions with teachers, other adults in the classroom and other pupils” (p. 37). From my point of view, I argue that by suggesting this use and non-use of classroom technology, such authors do not consider how this approach can actually affect the participation of pupils with cochlear implants. If the technology is turned off, their opportunities to participate in the interaction (and thus in the learning) will be rather limited.

**A peripheral position**

Identity is constantly created and recreated in interaction with other people and by participating in various communities of practice. Identity is therefore largely about different degrees of participation and non-participation, and about how other people perceive and construct an individual in this interaction. By reflecting upon how others view and treat her, and based on the different roles and positions that she both negotiates and receives, the individual creates a sense of self, consisting of a number of positions that are expressed in various ways in different contexts.

In the archival data, especially in articles from SDR’s periodical, it appears when examining issue C that the opportunities for participation, e.g., by using technologies or different forms of communication shape in several ways the identities that deaf people have access to and develop. Study I (Holmström & Bagga-Gupta 2013) shows that such identities can be about having positions as solitary and isolated individuals in a “hearing” society or about positions as full members of a Deaf community. From a postcolonial perspective, this can be understood as an issue of power relationships. In a primarily hearing society, deaf people can be subjected to an imposed non-participation. As the analysis of archival data indicates, it is a position they acquired because they did not have the same opportunities to communicate through spoken language. But the Deaf community can achieve membership and participation by communicating through Signed Language. And if we consider the Deaf community a minority group oppressed by a dominating (hearing) society (see, e.g., Lane, Hoffmeister & Bahan 1996), it becomes easier to understand the Deaf community’s long struggle for national Signed Languages in order to acquire the status of fully fledged language varieties with similar status to majority spoken language varieties.

In Sweden, the analysis of archival data shows that it was primarily during the 1970s that there was a reaction to the prevailing spoken language norm and to the normality thinking reflected in the quest for deaf pupils to be integrated in different types of schools (see Study II [Holmström submitted]). However, the quest for integration continued despite the fact that
both SDR’s and DHB’s periodicals argued against integration by painting a

 gloomy picture of the pupils’ situation in the integrated school forms, where they would acquire the position of “the Other” 39 and become lonely and isolated. Several researchers have painted similar pictures of the situation of deaf pupils in mainstream settings; Ramsey (1997) shows that deaf pupils are not offered opportunities to fully participate in different activities; Shaw and Jamieson (1997) found that the deaf student in their study did not have similar access to academic, social, and cultural experience as other hearing pupils, and, except for the Signed Language interpreter, his interaction with others in the classroom was very limited; Keating and Mirus (2003) argue that deaf pupils are non-participants in many developmental activities and become isolated by not being able to participate in their hearing peers’ communication; Tvingstedt (1993) and Bagga-Gupta (1999) show that hard-of-hearing pupils in mainstream settings do not have the same opportunities to participate in social interaction and are treated differently inside and outside the classroom in comparison to their hearing classmates.

In the archival data from the 1970s and 1980s, as reported in Study II, the NGOs (i.e., SDR and DHB) argue that it is better for the pupils to attend deaf schools, where they can interact and receive instruction together with their peers, with whom they share the same experience and forms of communication. Here it is important to note that these early discussions were about deaf and more severely hard-of-hearing pupils and not about pupils who had later received cochlear implants. These pupils began school in the latter part of the 1990s. Study II illustrates that during this period a spoken language norm no longer dominated in the deaf schools, but a sign language norm. But because children with cochlear implants have undergone surgery to benefit from hearing and participate in spoken communication, parents want their children to also be taught through spoken communication, and not only through sign language. Barnplantorna’s periodical shows that this request met with resistance from the deaf schools, and after a while, it became clear that the deaf schools were adapting too slowly, so the parents increasingly searched for alternative schools for their children. As a result, the integrated school placement again became popular during the 2000s (see also Study II).

39 By the position of the Other, I mean that the person differs in some fundamental way from a group of people and is not perceived as belonging to it. An Other can also be a stranger or a person who differs from what is regarded as the “normal” in a community of practice.
The analysis of interaction data provides a glimpse of this kind of school placement, and through a micro-analysis of a range of activities and phenomena, different identity positions of pupils with cochlear implants could be examined (issue D). These analyses, as shown in Studies II (Holmström submitted), III (Holmström & Bagga-Gupta submitted) and IV (Holmström, Bagga-Gupta & Jonsson submitted), indicate that the identity position of the pupils with cochlear implants in these classrooms also displays characteristics of “the Other”, similar to discussions about deaf and hard-of-hearing pupils, but in a somewhat different manner. Their Other position is framed by the presence and use of technologies and by the various communicative strategies that address these pupils differently as compared to their classmates. For example, pupils with cochlear implants are, unlike their classmates, allowed to frequently interrupt the teacher to ask for clarification; they receive additional explanations from teachers and resource persons without asking for them; in some activities, they have to wait and watch before they can perform their task; they are told to sit or stand in particular positions to hear instructions; they have to speak up when they cannot hear or when the microphones are not working; and they have to rely primarily on their hearing to keep up with the communication in the environment. Whilst the teaching is going on, they may also have visual dialogues with resource persons about other things, an interactional order their classmates do not have access to, but as a consequence of which they do not participate in the official teaching. Ohna (2005) has also identified such parallel dialogues between deaf pupils and their Signed Language teachers, and argues that these dialogues are possible because the pupil and the Signed Language teacher only use sign between them when communicating and it has not been seen by the other participants and does not disturb the ongoing spoken instruction. This is also the case in the classroom data analysed in this thesis’s studies.

In the interaction data in the studies, the participation of pupils with cochlear implants in communication and interaction appears to be much more exposed and controlled by the adults in the classrooms, and the pupils sometimes become excluded when the microphones are turned off or the resource persons, for some reason, does not visually mediate the communication. Based upon the picture painted here, I argue that pupils with cochlear implants who are in mainstream settings receive different identity positions than their classmates. And based on this Other position, I claim that the classroom participation of pupils with cochlear implants is peripheral, without gravitating towards full membership (Lave & Wenger 1991) in the classroom community of practice. Their interaction with other members is dependent on different existing and functioning technologies.
because the interaction is fundamentally based on a norm which emphasizes hearing as the medium for learning.
A final summary

In the introduction, I wrote that this thesis is particularly interested in what the everyday lives of children with cochlear implants in Swedish mainstream schools can be like. With the help of micro-analyses, we have highlighted a range of recurring patterns and activities that take place in classrooms where there are pupils with cochlear implants. The aim has been to contribute to increasing knowledge and understanding of their everyday school lives in a broader sense, and through sociohistorical analyses, we have produced a background that gives a more finely tuned understanding of how technologies in use shape the communication and identity of people with hearing loss over time.

Within the framework of this thesis’s four studies, we have looked at what kinds of technologies are particularly prominent in both the periodicals and classrooms and how they are handled and used over time. The result shows that a range of technologies, mainly visually- and audiologically-oriented, are highlighted over the years, and in mainstream classrooms, it is hearing and communicative-link technologies which dominate. We also found unequal power relations in the classrooms in that it was primarily the adults who decided how and when the technologies would be used. Furthermore, we have examined what forms of communication occur and are preferred in the periodicals and classrooms and how they have changed over time. In addition, we explored the presence of language ideologies in the twofold empirical data, the results of which show that different forms of communication (i.e., spoken or signed) were advocated during different periods, illustrating that language ideologies have flourished in the field since the end of the nineteenth century, primarily with a preference for spoken communication. This was also the case in the mainstream classrooms, where spoken language was the preferred form of communication, while visual communication was subordinated and used primarily when the technologies were not sufficient. Double monolingualism norms have dominated and polylingual approaches have only been identified to a small extent in the empirical data.

In the studies, we have also examined how the technologies and forms of communication in use enable or limit the interaction and participation of people with hearing loss in different communities of practice, particularly pupils with cochlear implants in classrooms. We found that even if the adults’ intentions were good, the choices they made regarding the use of technologies and forms of communication limited in various ways the participation of the pupils with cochlear implants. It also became clear that by using a range of communicative strategies, the pupils with cochlear im-
plants largely held responsible for their own participation in the classroom interaction. This can be connected to the last issue in my research: how the technologies and forms of communication in use shape the identity positioning of pupils with cochlear implants in classrooms. In this respect, the results suggest that the pupil with cochlear implants has a peripheral position in the classroom because her participation sometimes becomes limited and different on account to the handling and use of different technologies, and by how the adults act in different activities, e.g., if the spoken communication becomes visually mediated or not in noisy settings.

To broadly sum up parts 1 and 2 of this thesis’s results and bring the two different types of data together, we have revealed that various kinds of technologies significantly shape the forms of communication used in different contexts, and these technologies and forms of communication shape the identity positioning and participation of individuals with hearing loss in different communities of practice over time. Against this background, I argue that there is an underlying “hearing” norm in Swedish society which has led to expectations that the use of different technologies will “solve everything” in school settings. This leads to the utopian expectation that people with hearing loss can become normalized and participate in hearing contexts, even though the technologies can fail or work less well in different settings. And this thinking indicates that there are technological framings for the participation of people with hearing loss in society at large.

**Project CIT and further work**

The research presented in this thesis and its four studies has, as mentioned above in the empirical section, been carried out within project CIT, which was initiated in 2009. This project is interested in the role that technologies play vis-à-vis communication and identity issues, and particularly focuses on the everyday lives of children and young people with cochlear implants in and outside institutional settings, both at present and in the past. Based on completed and ongoing work within the research group CCD at Örebro University, the project aims to offer new perspectives on these issues. Studies of social practices and archival material from an ethnographic approach are important points of departure in the project, and the theoretical framework is based on sociocultural and postcolonial perspectives where communication, learning and identity issues are highlighted.

Since 2009, project CIT has developed, and at the time this thesis is completed in mid-2013, the empirical data will have grown in the following manner: a) all articles in the DHB’s periodical will have been systematically documented and b) currently work is underway for creating a complete database of all SDR’s periodicals for the period 1891-2013. This
database will, in addition to being made available to DHB and SDR, be openly accessible for researchers on the university website. The systematically documented material will form the basis for future studies in the project, which will continue after this thesis is completed. A concerted effort is also underway to create additional interaction data from school settings where different-aged children with cochlear implants are members.

As I complete my thesis, two new studies are already underway in project CIT, both based on the project’s empirical data. These are jointly conducted by CIT members. One is led by Sangeeta Bagga-Gupta at Örebro University and primarily focuses on technologies and how they are handled in institutional environments where they both enable and hinder participation. The second study is led by me and foregrounds identity-position issues and how these can be understood against technological and communicative framings, both from a sociohistorical perspective and in contemporary mainstream classrooms. These two studies are intended to be later followed by further studies within the project, and we hope that our work will contribute to an increasing body of knowledge regarding the everyday lives of children with cochlear implants inside and outside institutional environments.
Svensk sammanfattning (Summary in Swedish)

Introduktion och syfte

Det här är en avhandling som särskilt intresserar sig för hur vardagslivet i skolan kan se ut för döva barn som har fått cochlea implantat40 och som går i den s.k. vanliga skolan tillsammans med hörande klasskamrater. Denna skolplacering har nämligen ökat markant under 2000-talet, samtidigt som dövskolans41 elevantal sjunkit. Syftet med avhandlingen är dock inte att dra några generella slutsatser kring hur det är för alla barn som har den här typen av skolplacering, utan att bidra till en ökad kunskap kring skolvardagen för barn med cochlea implantat. Cochlea implantat är en relativt ny avancerad hörselteknologi som ger döva och gravt hörselkadade personer möjlighet att uppfatta ljud, och teknologin har kommit att få en allt större spridning i Sverige liksom i många andra länder. Dock saknas det fortfarande forskning som fokuserar människor som har fått detta hjälpmedel inopererat, särskilt avseende deras vardagsliv och hur de kommunicerar och interagerar med andra i sin omgivning, såväl inom som utanför skolan.

Avhandlingen har ett särskilt intresse för teknologier och dess roll i döva och hörselkadade människors liv ur ett sociohistoriskt perspektiv. Det övergripande syftet är därför att undersöka hur teknologier används i interaktion och skapar villkor för kommunikation och identitet i vardagslivet för människor med hörselnedsättning över tid. I denna undersökning riktas särskilt fokus på interaktion och deltagande för barn med cochlea implantat i klasser i den vanliga grundskolan. Empirin som ligger till grund för avhandlingen kommer från två olika typer av data: 1) arkivdata från tre intresseorganisationers tidskrifter i syfte att undersöka avhandlingens generella och sociohistoriska frågeställning och 2) interaktionsdata från två klassrum för att undersöka det specifika fokus som avhandlingen har på elever med cochlea implantat. Empirin kommer att presenteras mer utförligt nedan.

Baserat på det övergripande syftet med avhandlingen så undersöks följande mer specifika frågeställningar:

40 Ett cochlea implantat är ett avancerat hörselhjälpmedel som består av två delar, en som är inopererad i innerörat och en som ser ut som en hörapparat och placeras bakom örat.

41 Jag har i avhandlingen valt att använda mig av benämningen ”dövskola” istället för ”specialskola för döva och hörselkadade”, eftersom benämningen har skiftat över tid och eftersom ”dövskola” är ett internationellt vedertaget begrepp.
A. Vad för slags teknologier är särskilt framträdande i tidskrifterna och i klassrummen, och hur hanteras och används de över tid?

B. Vad för kommunikationsformer förekommer och föredras i tidskrifterna och i klassrummen, och hur har dessa förändrats över tid? Vad för språkideologier återfinns i materialet och hur påverkar de vardagskommunikationen i de studerade klassrummen?

C. På vilka sätt främjar eller begränsar teknologier och kommunikationsformer i användning interaktion och deltagande för människor med hörnedsättning i olika praktikgemenskaper, särskilt elever med cochlea implantat i klassrummen?

D. Hur skapar teknologier och kommunikationsformer i användning elever med cochlea implantats identitetspositionering i klassrummen?

Dessa frågeställningar undersöks och besvaras i avhandlingens fyra studier: Studie I (Holmström & Bagga-Gupta 2013), Studie II (Holmström inskickad, Studie III (Holmström & Bagga-Gupta inskickad) och Studie IV (Holmström, Bagga-Gupta & Jonsson inskickad).

**Teoretisk inramning**


praktikgemenskaper också kan innefatta hierarkier och normerande föreställningar, vilket leder till maktrelationer av olika slag.


Metodologiska utgångspunkter och empiriska data

Denna avhandling har en etnografisk ansats. Ordet etnografi härstammar från ethno som betyder människor, folk och graphia som betyder bild, beskrivning. Man kan därför lite förenklat säga att etnografi handlar om att skapa en ”människobild” eller att göra en ”människobeskrivning”, och etnografer är intresserade av att beskriva vad människor på en särskild plats eller med en särskild status vanligt gör och vilken betydelse de själva tillskriver vad de gör (Wolcott 1999). Från en etnografisk utgångspunkt är det inte bara interaktion som är intressant att studera, men också arkivmaterial, tryckta källor och materiella artefakter, vilka kan ge värdefull och kompletterande information till fältarbetet, t.ex. genom att ge en inblick i hur historiska förändringar skett och hur informanter själva upplever saker (Hammersley & Atkinson 2007). I denna avhandling har mot denna bakgrund två olika typer av data använts. Dels interaktionsdata från två klaser i den s.k. vanliga svenska skolan där det finns elever som har cochlea implantat och dels arkivdata från tre svenska intresseorganisationers tidsskrifter.

Interaktionsdata kommer från två skolor: skola ”A” och ”B”. De deltagande klasserna består vardera av 10-15 elever i åldern 7-11 år, en huvudlärare, speciella ämneslärare och en-två resurspersoner som är teckensprå-
Ella, i skola A, och Maja, i skola B har båda bilaterala implantat och har haft det första sedan tvåårsåldern. Det andra fick de 1-2 år senare. Deras familjer använder både tal och tecken till dem, men de själva använder främst tal för att kommunicera med omgivningen.

Data har skapats genom deltagande observationer av sammanlagt 10 skoldagar under en termin, våren 2011. Sammanlagt består empirin av ca 25 timmars videoinspelat material, en detaljerad fältdagbok samt digitala bilder. Klasserna har följts under hela skoldagarna under lektioner, raster och luncher, liksom i förekommande fall på fritidshem. Ella har också följts på fritiden. I analysarbetet med interaktionsdata var utgångspunkten multimodal mikro-analys, där inspiration hämtas från såväl samtalsanalys (CA) som modifierade analytiska system och från teckenspräksforskningen.

Resultaten från analysen av interaktionsdata fokuserades i avhandlingens Studie II, och III och IV.


**Resultat**

För att skapa en sociohistorisk kontext till och en förståelse för de utvecklingar som skett utifrån avhandlingens specifika intresse för hur olika teknologier relaterar till frågor kring identitet och kommunikation i döva och hörselskadade människors vardagsliv analyserades i avhandlingens Studie I kategorierna kommunikation, identitet och teknologi i arkivdata. Resultaten från denna analys visar att dövgemenskapen, representerad av SDRs tidskrift, har haft stort intresse för många olika typer av teknologier genom åren, såväl visuellt orienterade teknologier som taktilt och audittivt orienterade, men att det funnits en preferens för de visuellt orienterade. DHBs tidskrift indikerar liknande intresse som SDRs medan Barnplantornas tid-
skrift visar ett mer ensidigt intresse för auditivt orienterad teknologi. Vidare framkom i analysen att preferensen för olika kommunikationsformer (talad svenska, svenskt teckenspråk, total kommunikation) har skiftat mellan olika tidsperioder, samt att det finns nära kopplingar mellan teknologier, kommunikation och identitet. Sammantaget visar SDRs och DHBs tidskrifter ett intresse för det som fungerar hos döva och hörselskadade (dvs. syn och känsel) och hur bristerna i hörsel kan kompenseras, medan Barnplantornas tidskrift istället fokuserar på det som saknas eller fungerar mindre bra (dvs. hörseln) och hur den kan repareras.

Den sociohistoriska analysen av arkivdata fortsätter i Studie II med fokus på kategorin skola och här framträder en bild av hur olika kommunikationsformer i undervisningen skiftat mellan olika decennier, från en preferens för talad svenska, genom en period av mixning42 (s.k. total kommunikation) till en preferens för svenskt teckenspråk. I och med att preferensen låg på svenskt teckenspråk som kommunikationsform då barn med cochlea implantat började göra sitt intåg på dövsksolan och denna skolform inte snabbt nog erbjöd barn med cochlea implantat undervisning även på talat språk, så ledde det till att allt fler föräldrar sökte alternativa skolformer för sina barn, där de skulle kunna få tillgång till och undervisas på både talat språk och teckenspråk. Utvecklingen ledde dock snart vidare mot att allt fler föräldrar istället valde en skolplacering i den vanliga skolan.

Dessa saker sammantaget indikerar att det till hög grad varit den teknologiska utvecklingen (i form av bl.a. cochlea implantat) och de kommunikationsformer som erbjudits i undervisningen inom olika skolformer som lett fram till den nutida situationen där dövsksolans elevantal minskar och individplacering i vanlig skola ökar. Den sociohistoriska analysen visar också att SDRs och DHBs tidskrifter under 1970- och 1980-talen drev frågan att döva och hörselskadade barn behövde få vara tillsammans med andra döva och hörselskadade barn för att slippa ensamhet och isolering och för att de skulle ha bättre möjligheter till delaktighet, medan Barnplantornas tidskrift ger en helt motsatt bild under senare delen av 2000-talet när de rapporterar om individplaceringar som fungerar över förväntan och att eleverna i sådana skolplaceringar är helt accepterade och delaktiga i den vanliga klassen.

Utifrån den bild som den sociohistoriska analysen framvisar görs i Studie II senare en övergång till interaktionsdata i syfte att titta på hur olika kommunikationsformer förekommer i den vanliga skolan och hur elevernas delaktighet i klassrumsinteraktionen kan se ut. Av analysen framgår att

42 Jag har valt att kalla detta för ett polylingualt tillvägagångssätt i denna avhandling.
det visserligen förekommer olika kommunikationsformer i klassrummen, men att det är den talade kommunikationen som dominerar, medan visuell kommunikation främst erbjuds av resurspersonen, särskilt när teknologin inte räcker till för att mediera den talade kommunikationen. Dessutom framgår att resurspersonen ibland använder sig av ett polylingualt tillvägagångssätt då hon talar och tecknar samtidigt när hon riktar sig mot både de hörande barnen och barnet med cochlea implantat samtidigt, som t.ex. i instruktioner eller informella samtal. Sammantaget framträder en bild av att resurspersonen har stor betydelse för eleven med cochlea implantat och dennes deltagande i kommunikation och interaktion då hon många gånger fungerar som en kommunikativ länk mellan eleven och övriga deltagare i klassrummet. Men samtidigt finns många exempel på när resurspersonen inte erbjuder visuell mediering av någon anledning, vilket i vissa situationer försvårar för eleven att delta i interaktionen och ger henne en mer perifer position. Analysen kunde dock inte identifiera något tydligt mönster för när visuell mediering erbjuds eller inte.

De två följande studierna i avhandlingen, Studie III och IV har sin utgångspunkt helt och hållet i interaktionsdata, och i dem har mikro-analys av vanligt återkommande mönster och fenomen gjorts. I Studie III kartläggs vilka olika teknologier och kommunikativa strategier som förekommer i klassrummet och hur de på olika sätt främjar eller begränsar elever med cochlea implantats deltagande i interaktionen. Dessutom undersöks hur dessa skapar de olika identitetspositioner som elever med cochlea implantat ges.

Analysen visar att det förekommer tre olika typer av teknologier i de här klassrummen: hörselrelaterad teknologi (t.ex. mikrofoner och slinga), literacy-relaterad teknologi (t.ex. SmartBoard) och kommunikativ-länk teknologi (t.ex. resurspersoner) och att dessa teknologier på olika sätt inverkar på kommunikationen och interaktionen genom de sätt de används på, vilket både främjar deltagande men också skapar hinder för det (genom t.ex. att mikrofoner slås på eller av eller att resurspersonen inte medierar kommunikationen). I klassrummen använder sig elever med cochlea implantat av olika kommunikativa strategier; de ställer ”va sa han”-frågor som de flikar in till läraren i pågående undervisning, de justerar teknologin (t.ex. höjer och sänker sina implantat), riktar visuell uppmärksamhet mot den som talar, iakttar vad klasskamraterna gör, söker ögonkontakt med sin resursperson för att få stöd, ber om klargöranden både under och efter olika aktiviteter etc. De vuxna i sin tur använder andra strategier som att upprepa det klasskamraterna säger, genom att själva tala lugnt och tydligt och genom att styra över hur teknologin används (de avgör t.ex. om elev-och lärarmikrofoner ska vara på eller av).
De sätt som teknologier och kommunikationsformer inverkar på eleven med cochlea implantats deltagande i interaktionen fick särskilt fokus i den sista av avhandlingens fyra studier. Här undersöktes närmare hur hörselrelaterad teknologi hanterades och användes i klassrummen. Dessutom undersöktes vilka former av kommunikation som återfanns där och ifall det fanns exempel på att språkliga ideologier förekom. Resultaten av analysen visar att det råder en ojämlik maktrelation mellan de vuxna i klassrummet och eleven med cochlea implantat avseende hur teknologier på olika sätt används och hanteras. De vuxna hade i stor del av interaktionen den avgörande makten att bestämma huruvida hörselteknologin skulle vara påslagen eller inte, ifall implantaten behövde höjas eller sänkas, ifall ett av implantaten skulle tas av för att hörseln skulle tränas på det andra örat etc. Analysen visade också att det fanns en stor preferens för talad kommunikation medan visuell kommunikation sköts i bakgrunden, vilket medförde att eleven med cochlea implantat fick ett mer perifert deltagande i klassrumsinteraktionen.

Sammantaget visar de sociohistoriska analyserna och mikro-analyserna att olika typer av teknologier har stor inverkan på vilka kommunikationsformer som används i olika kontexter och att detta i sin tur i hög grad påverkar människor med hörselnedsättning avseende deras identitetsspositionering och medför att deras deltagande i olika praktikgemenskaper blir mer perifert över tid. Mot denna bakgrund hävdar jag att det finns en underliggande ”hörande” norm i samhället som leder till en förväntan på att teknologier ska ”lösa allt”, så att människor med hörselnedsättning kan bli normaliserade och delta i hörande kontext trots det faktum att hörselteknologier kan gå sönder eller fungera mindre bra i olika sammanhang. Detta tänkande indikerar att människor med hörselnedsättning möjligheter till deltagande i det allmänna samhället primärt är teknologiskt grundat.
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Hej!

Jag heter Ingela Holmström och är doktorand i pedagogik på Örebro universitet. Mitt forskningsområde handlar om kommunikation och identitet, med särskilt fokus på barn och ungdomar med cochlea implantat. Jag intresserar mig för hur skolvardagen ser ut för barn som har CI, oavsett om de valt att gå i hemskolan, hörselklass eller på specialskolan.

Under hösten 2009/våren 2010 har jag för avsikt att göra en pilotstudie som ska hjälpa mig att välja fokus för mitt avhandlingsarbete och det är därför jag kontaktar er, för att fråga om det finns möjlighet att ni kan hjälpa mig att komma i kontakt med några föräldrar som har barn med CI.


Tacksam för svar.

Med vänlig hälsning

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Hej!

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Tacksam för svar.

Med vänlig hälsning

Ingela Holmström
Ingela Holmström
Learning by Hearing?

Appendix B Brev till familjerna

Brev till familjerna

Örebro 201X-XX-XX

Förfrågan om deltagande i en studie


Studien kommer att ligga som grund för mitt avhandlingsarbete. Huvudman för studien är Örebro universitet och projektledare är professor Sangeeta Bagga-Gupta vid universitetet. För att komma i kontakt med henne kan man skriva till e-postadressen sangeeta.bagga-gupta@oru.se eller ringa på telefon 019 - 30 35 89.

Under det kommande året har jag för avsikt att bedriva en studie inom projektet och det är därför som jag med detta brev kontaktar Er, för att fråga om Ni är intresserade av att delta i studien. För Er del innebär deltagandet att jag och eventuellt mina handledare ges möjlighet att följa Ert barn i skolan och gärna vid några tillfällen på fritiden. Ambitionen är att jag ska göra en etnografisk studie, vilket innebär att jag vi, som ”deltagande observatör”, följer Ert barn (och klassen) under skoldagen, på såväl lektioner som raster, och dokumenterar barnets och klassens vardagsliv med filmkamera, papper och penna. Jag kommer också eventuellt att samtala med elever och andra i skolan i den mån nya frågor väcks under forskningsprocessen. Deltagandet är helt frivilligt och Ni har rätt att när som helst avbryta Ert deltagande.

Alla uppgifter som kommer oss till del i studien kommer att behandlas på ett sådant sätt att inga obehöriga får del av dem. Den inspelade dokumentationen kommer att användas enbart i forskningssyfte. Detta innebär bl.a. att min studie och hela KIT-projektet kommer att noga följa Vetenskapsrådets forskningsetiska regelverk och forskningsdata kommer enbart att analyseras inom ramen för forskningsprojektet och den forskningsgrupp den är underordnad i.

Eftersom jag själv är döv kommer jag under min studie att åtföljas av tolk.


Er medverkan kommer att ha stor betydelse för forskningsfronten. Det finns ingen etnografisk forskning kring cochlea implantat i Sverige idag (och den som finns internationellt sett är högst begränsad).

Med vänlig hälsning
Ingela Holmström

Svarsblankett - Familj

Ja, jag/vi kan tänka mig/oss delta i forskningsprojektet och accepterar att ni kontaktar mig/vi på nedanstående adress/telefon/mail.

Barnets namn: ________________________________________________
Adress:  ________________________________________________
Telefon:  ________________________________________________
E-post:  ________________________________________________
Förälders underskrift:  ________________________________________________

Blanketten skickas tillbaka till mig i bifogat svarskuvert.

Tack för ert intresse för deltagande i studien!
Svarsblankett - Familj

☐ Ja, jag/vi kan tänka mig/oss delta i forskningsprojektet och accepterar att ni kontaktar mig/oss på nedanstående adress/telefon/mail.

Barnets namn: ________________________________________________
Adress: ________________________________________________
Telefon: ________________________________________________
E-post: ________________________________________________

Förälders underskrift: ________________________________________________

Blanketten skickas tillbaka till mig i bifoga svar skuvert.

Tack för ert intresse för deltagande i studien!
Ingela Holmström
Learning by Hearing?

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Ingela Holmström
Learning by Hearing?

Brev till skolorna

Örebro 2010-XX-XX

Förfrågan om deltagande i en studie


Studien kommer att ligga som grund för mitt avhandlingsarbete. Huvudman för studien är Örebro universitet och projektledare är professor Sangeeta Bagga-Gupta vid universitetet. För att komma i kontakt med henne kan man skriva till e-postadressen sangeeta.bagga-gupta@oru.se eller ringa på telefon 019 - 30 35 89.

Under det kommande året har jag för avsikt att bedriva en studie inom projektet och det är därför som jag med detta brev kontaktar dig, för att fråga om det finns möjlighet för mig och eventuellt mina handledare, att i någon omfattning få följa den klass du undervisar i. Du har nämligen fått detta brev för att du undervisar en elev som har CI. Ambitionen är att jag ska göra en etnografisk studie, vilket innebär att jag/vi, som ”deltagande observatör”, följer eleven (och klassen) under skoldagen, på såväl lektioner som raster, och dokumenterar elevens och klassens vardagsliv med filmkamera, papper och penna. Jag kommer också eventuellt att samtala med elever och andra i skolan i den mån nya frågor väcks under forskningsprocessen. Deltagande i studien är helt frivilligt och du har rätt att när som helst avbryta ditt deltagande.

Alla uppgifter som kommer oss till del i studien kommer att behandlas på ett sådant sätt att inga obehöriga får del av dem. Den inspelade dokumentationen kommer att användas enbart i forskningssyfte. Detta innebär bl.a. att min studie och hela KIT-projektet kommer att noga följa Vetenskapsrådets forskningsetiska regelverk och forskningsdata kommer enbart att analyseras inom ramen för forskningsprojektet och den forskningsgrupp den är underordnad i.

Eftersom jag själv är döv kommer jag under min studie att åtföljas av teckenspråkstolk.

Detta brev när dig genom den aktuella elevens familj, som är intresserad av att medverka i studien. Vi hoppas därför att du också är intresserad av att ge mig tillträde till ditt klassrum och att du därför fyller i bifogad svarsblankett och lämnar tillbaka den till familjen, som skickar den vidare till mig.

Jag hoppas du vill ge mig möjligheten att vara med i din klass. Om du vill, så är du också välkommen att kontakta mig på e-post ingela.holmstrom@oru.se. Du kan också nå mig på mobilnummer 0735-302997 via videosamtal, om du kan svenskt teckenspråk, eller via bildtelefonförmedlingen, som har telefonnummer 020-280020, där du sedan ber dem ringa upp mitt nummer. Jag kan också nåsvia SMS.

Din medverkan kommer att ha stor betydelse för forskningsfronten. Det finns ingen etnografisk forskning kring cochlea implantat i Sverige idag (och den som finns internationellt sett är högst begränsad).

Med vänligh hälsning
Ingela Holmström
Ja, jag/vi kan tänka mig/oss delta i forskningsprojektet och accepterar att ni kontakter mig/oss på nedanstående adress/telefon/mail.

Lärarens namn: ________________________________

Skola: ________________________________

Adress: ________________________________

Telefon: ________________________________

E-post: ________________________________

Lärarens underskrift: ________________________________

Blanketten lämnas åter till den aktuella elevens familj som skickar den vidare till Örebro universitet.

Tack för ert intresse för deltagande i studien!
Appendix F – Letter to the NGOs

Hej!

Jag heter Ingela Holmström och går på forskarutbildningen på Örebro universitet. Mitt forskningsområde handlar om kommunikation och identitet för barn med dövhet, hörselskada och CI. Just nu håller jag på med en kartläggning och historisk tillbakablick och jag skulle behöva ta del av medlemstidningar från många år tillbaka i tiden. Har ni något tidningsarkiv hos er som jag skulle kunna få tillträde till eller kan ni hänvisa mig vidare till annan plats där det kan finnas?

Tacksam för svar

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