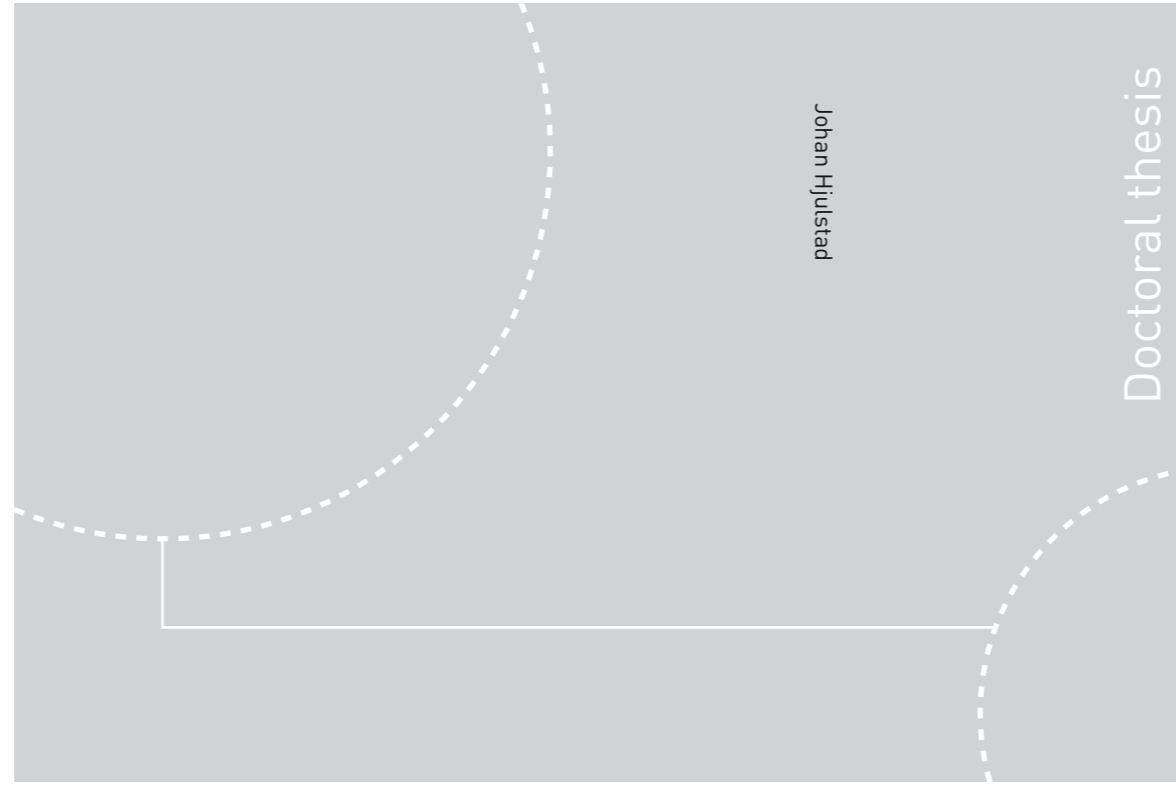


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Johan Hjulstad

Embodied Participation

In the Semiotic Ecology of a Visually-Oriented Virtual Classroom

 **NTNU**
Norwegian University of
Science and Technology

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Trondheim, March 2017

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*To mom
(1931-2016)*

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Summary

New developments and use of participation technologies allow people to create new kinds of built spaces in ways that affect actions, collaborations, perceptions, and the production of meaning—and, consequently, the way in which such spaces afford learning. This thesis reports a microethnographic study of a distance education setting in which advanced videoconferencing technologies were set up in order to create a virtual classroom in which remote, separately located students could learn signed language in the company of other students. The data was gathered in the context of deaf education in Norway; thus, within a sociocultural tradition of visually-oriented communicative practices. The thesis consists of two parts: a compilation of introductory chapters (chapters 1 to 8) and three empirical works (chapters 9 to 11). The three empirical works consist of one peer-reviewed book chapter and two journal articles. The main data of this microethnography consists of recorded footage of the videoconference-mediated synchronous (video) images of weekly multiparty lessons—in which participants could see each other at all times, but no sound was transmitted. The teachers and students collaborated to visually coordinate and organize the activities, primarily through (sign) languaging in the virtual classroom. This implies that they contingently adapted their practices and strategies to the semiotic ecology of the setting, thus providing important insight into what it is like to participate, learn, and form identities in a new educational setting.

The study took an embodied (and multimodal) interaction analytic approach to the data, and explored the way in which the teachers and students organized their own and interpreted others' bodily movements; that is, it examined the way in which they employed multimodal resources (e.g., signed language, gesture, gaze, head movements, facial expressions, body postures, object manipulation, and technology) when interacting with one another. The

introductory chapters: summarize the three empirical contributions (Chapter 2); provide background for the ethnographic field in which the data was collected (Chapter 3); provide an exposition of the theoretical frameworks this microethnography aligned with (Chapter 4); discuss previous research with an emphasis on research in deaf education (Chapter 5); present results from the three empirical works to show the benefits of collecting the papers in a single volume (Chapter six); clarify the methodology and data (Chapter 7); and conclude (Chapter 8). The peer-reviewed book chapter (Chapter 9) explores the possible role of the environment in the students' identity negotiations and explicates their (identity) work to stabilize an identity space—blurring the boundaries of inclusive and segregated education. The first journal article (Chapter 10) focuses on the way in which teachers' professional practice of orchestrating students' attention became a critical skill when adapting practices and strategies in this particular environment, suggesting that knowing what the interlocutors see is critical for successful communication. The final journal article (Chapter 11) explores the practices of one teacher, who exploited sign language conventions in new ways to consistently build an interactional space in which he could use specific directions (e.g., by pointing) to address students and allocate turns. This teacher thus obtained a solution for complicated “deictic” challenges in non-shared spaces. The thesis contributes to deaf education and beyond, and adds to our understanding of teaching and learning—visually-oriented practices, participation, and identity work—in new technology-mediated settings.

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each other wonderfully and gave so much more support than anyone could ask for. I am thankful for the generosity, warmth, and care my supervisors showed me, particularly when the struggles seemed insurmountable.

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Part I

1. Introduction

The microethnographic study presented in this thesis is about teachers' and students' signed language interactions in a video-mediated distance education classroom within deaf education. The field of deaf education has gone through substantial changes over recent years. The year 1997 has been described as a significant year in the history of Norwegian deaf education (Vonen, 1997), as this was the year that the Education Act was amended to include a section (§2.6) securing deaf students the right to tuition in and about Norwegian Sign Language (NSL). This was a breakthrough for the official recognition of NSL as a full-fledged language, and the recognition that deaf students should be secured a bilingual education. A number of measures were taken to follow up on the change in legislation (see chapter 3).

In the following years, further significant changes led more and more parents of deaf children to educate their children at local municipality schools rather than state-run schools for the deaf, which are managed by the governmental agency Statped (the national support system for special needs education). The decreasing number of students attending state deaf schools has led the government to close down three out of four state schools for the deaf; further, at the moment of writing, the Ministry of Education and Research was in conversation with the local municipality of the fourth school with respect to transferring it to the jurisdiction of the local government. The deaf students who are now receiving their education at local mainstreamed schools still have the legal rights to—and a need for—bilingual education. The new situation poses challenges with respect to providing a good bilingual learning environment at local schools, and creates demands for new measures at local schools and in the educational support system. Thus, a new model for deaf education has been proposed,

wherein deaf students who are supposed to learn signed language as part of their education are offered a part-time school program through which they spend 2 to 12 weeks a year at the former schools for the deaf; this model is currently in the process of being implemented.

Because of this new situation, several stakeholders have suggested that new information and communication technologies should be used to improve the current situation for mainstreamed students who have limited signing environments at their local school. These suggestions partially motivated a pilot project offering distance education to students learning signed language. As the schools were already offering one-on-one videophone tutoring, the clearly expressed goal of the new version of distance education was to connect several students at the same time in a virtual classroom in order for them to learn in the company of others. Thus, the goal was to exploit new advanced videoconferencing technologies in order to provide students with a rich signed language learning arena in between part-time stays at schools for the deaf.

Being employed in Statped (though in another department), having been trained in applied linguistics, and aiming to someday do a PhD project, I was immediately interested in this pilot project and it sparked my interest in embarking on the research project that is presented in this thesis. I formed a research proposal and applied to NTNU (Norwegian university of science and technology) for funding and acceptance into their PhD program. Because the education project was foremost a pilot project, I was never interested in evaluating it. Rather, my interest was in exploring the “idea” of moving education and interactions from co-present classrooms to arenas where interaction is mediated through cameras and screens. Could we expect everything to be the same for the participants? Wouldn't these rather fundamental changes in the interactional setting lead to new and different possibilities, as well as

constraints, for the learning environment? I had already developed a particular interest in ethnomethodological conversational analysis and microethnographic investigations of social interaction, and I knew about the ability of such approaches to clarify what is specifically going on in regular, everyday conversations. When I realized the potential nature and quality of video data that I would be able to collect from this setting, the aim of this thesis immediately started to crystalize.

1.1. The thesis aims and research questions

Through the research presented in this thesis—represented in the three included papers—I aim to contribute research-based knowledge to the development of deaf education practice in new settings. Further, I aim to contribute to an applied linguistics that seeks solutions to language-related real-life problems in the quest for a more thorough understanding of the complexity of what is involved when students and teachers connect online to interact and learn (signed language). With the studies in each of the included papers, the aim is to bring empirical analysis of deaf education practice into academic discussions of particular themes concerning human interaction and sociality; I contend that special conditions can sometimes make significant contributions to scientific knowledge, in general.

By demonstrating the way in which the participants employed various components of their bodies (their head, hands, posture, facial expressions, etc.) to build meaning in these technology-mediated signed language interactions, I show how the participants used the same “raw materials” that other people might otherwise use in gesturing and visually communicating. However, the difference—I argue—is in the ways that these bodily resources were employed, which took on a form—and were conventionalized to a degree—that we

recognize as having the complexity and sophistication of natural human languages. I further argue, in line with other microanalytic researchers (e.g. Streeck et al., 2011), that the embodied or multimodal interactions performed through the means of embodied practices—that is, signed language, with its signs consisting of manual and non-manual components as well as other bodily comportments—in addition to the material environment of this mediated setting, can be seen to constitute a specific configured semiotic ecology of its own. In this endogenous ecology, the actors participated to contingently make sense in concert. Through their moment-by-moment interactions, they actively shaped the environment to afford learning. Thus, my ambition was to reach the abovementioned aims through exploring the way in which teachers and students in lessons of signed language teaching co-organized their embodied participation in the semiotic ecology of a visually-oriented virtual (i.e., videoconference-mediated) classroom.

The most salient features explored in this thesis are: how the participants interact in order to connect and sustain the connection; how the participants build visual utterances by combining simultaneous bodily elements while finely tuning them with the others by monitoring, timing, and adjusting their signing to build sequences in cooperation with their interlocutors; how the participants explore and exploit the affordances of the technology, itself, for meaning-making; and how the participants co-organize the lessons in concert. All of these questions fed into my main guiding question in this thesis:

What it is like to participate in classroom activities through signed language interaction in a video-mediated environment?

The aims are substantialized and achieved by examining and answering the three questions in each of the included papers in Part II of the thesis.

The first paper, included in this thesis as Chapter 9, deals with questions of identity and identity development, which are relevant to the present situation in deaf education. As an increasing number of students are receiving their education in mainstream classrooms as the only deaf student in their local schools, it is implied that the students are supposed to become sign-bilingual and bicultural in spite of limited contact with a signing community. This makes it relevant to question how these students will come to identify with deaf culture and the signing community. In light of the fact that the distance education program was set up to provide deaf students with an additional arena for signing, the following question is relevant:

In what ways can the new video-mediated classroom environment influence identity negotiations?

The second paper, included as Chapter 10 in this thesis, deals with the way in which the teachers confront the affordances of this new teaching context and develop their professional practices of teaching signed language to (deaf) students. The teachers reported that, due to the way in which the video-mediated environment render eye gaze, they found it difficult to follow exactly where the students were looking on their screens—in other words, to determine what or who the students were paying attention to. The teachers' central task of monitoring, coordinating, and facilitating the students' attention made the following question relevant:

How do teachers orchestrate student attention in this visual, multiparty, mediated environment?

The third paper, included as Chapter 11 in this thesis, deals with the way in which addressing practices were employed to organize built interactional space in this video-mediated environment. In particular, one teacher initiated a procedure for addressing and selecting the next speaker that was curiously different from the other teachers' practices. Scrutinizing the details of the orders of interaction in signed video-mediated environments, this paper asks:

How are addressing practices employed to organize built interactional space in this video-mediated environment?

1.2. Thesis overview

Part I (chapters 1 to 8), gives an overview of the research questions and conclusions and presents the included papers as a series of connected studies. In this way, it documents and explains the coherence of the thesis.

Chapter 2 gives a brief summary of the papers as a point of departure and provides a fairly concise description of the thesis content.

Chapter 3 provides a background for the microethnographic study presented in the thesis. It covers some of the motivation for embarking on the study and its design influences. It further discusses some of the terms used in the thesis. Then, a description is provided of the historical background, highlighting relevant aspects of the organizational challenges that have characterized deaf education up to the point at which the new model of deaf education was established in Norway.

Chapter 4 provides an exposition of the relevant theoretical material. It describes my theoretical approach and what I was looking for in my explorations. It also takes a closer look at the traditions of microethnographic investigations of human action and microcultures using video. Finally, the chapter gives an account of the particular process of asking research questions by connecting issues in the practitioner field with themes and issues discussed in academic discourses (to which each of the papers empirically contribute).

Chapter 5 discusses and gives a more comprehensive review of the relevant research. While I found information on various forms of distance education within or in connection to deaf education, very few studies have investigated signed interaction in a video-mediated setting.

However, I considered research on deaf education practice relevant, and this chapter discusses the relevance of such research for the present study.

Chapter 6 combines the analyses and the results from the included papers to show how they—when read together—answer the main question of the thesis. Through explications of the participants' systematic interactional procedures (as demonstrated in the analyses) and the results (in the form of descriptions of embodied interactional practices and the adjustments the participants made to them), the chapter shows some of what it is like to participate in classroom activities through signed language interaction in a video-mediated environment.

Chapter 7 clarifies the thesis's methodology and data. Microethnographic video-based research is more rigorously empirical than traditional ethnography, as research claims are grounded in the empirical details of actual behavior that is captured on video and made available for scrutiny. The chapter presents how I collected data, what kind of data I collected, and the amount of data I collected for this study, and describes the ethical reflections I made when conducting the study. The primary data were recordings of the videoconference-mediated lessons held during the trial phase of the pilot project run by Statped. The chapter further explains how I dealt with the large amount of video data, making content logs before transcribing and analyzing. For each paper, I approached the data differently. The transcription process was supported by several transcription tools, such as f5transkript and ELAN, and annotations were made by combining conventions from research practices in signed linguistics and microanalytic approaches such as conversation analysis. In describing and reporting the findings I sought to keep an eye on how the salient distinctions participants made could be presented to readers as clearly and as vividly as possible. Thus, in the

presented transcripts, I use various combinations of glossing of signs, sketched frame grabs, and transcription symbols.

Chapter 8 summarizes the findings from the three papers and the single contribution of the thesis as a whole.

2. Summary of the included papers

This chapter briefly summarizes the papers included in Part II (chapters 9 to 11) of the thesis, and describes some of their contents.

2.1. Identity negotiations in a visually-oriented virtual classroom

The first paper (Hjulstad, 2016, forthcoming) has been accepted for inclusion in the edited book, *Identity (Re)visited and (Re)imagined. Empirical and Theoretical Contributions on Embodied Communication Across Time and Space*, edited by Bagga-Gupta, Hansen, and Feilberg (to be published by Springer in December 2016).

This paper takes its leave from the position that providing deaf students the opportunity to come together with other students to learn signed language can strengthen their deaf identities, in the sense that this allows for identification with other signing students and the deaf signing community, at large. The studied video-mediated classroom provided an arena for this to happen. However, as pointed out by identity researchers, identities are inevitable and multiple, and intersect with other identities. Previous research also indicate that deaf students can have difficulty exposing their deaf identities when they are the only ones in their local school learning signed language. The paper investigates how a simple exercise within a teaching plan about “friendship” had a powerful effect on what deaf identity came to mean, also vis-à-vis the deaf students’ hearing friends from their local classes. When one of the groups was presented with the “friendship” teaching plan, one of the students suggested they each invite one friend from their local school to join them for a lesson in the video-mediated environment. The teacher responded positively to the student’s initiative and decided to make this part of the teaching plan. Through working with this teaching plan, wherein the signing

students planned for and invited hearing non-signing friends from their local classes, they renegotiated what “deaf” came to mean in the inclusive setting at their local school. The findings suggest that identity is accomplished in mundane, everyday situated interactions in various environments that stabilize certain identities and destabilize others. It is found that several aspects work together in the process of stabilizing and destabilizing intersecting identities. As the only signing student with hearing loss in a hearing, non-signing mainstream classroom, a deaf student often struggles to fully make him or herself known to hearing peers. However, meeting deaf students as a collective in a video-only mediated distance education classroom gave hearing friends a chance to get to know their signing friends—also when in the company of other signing friends. Thus, this led the identity of “deaf” to be renegotiated and associated with the identities of “expert,” “leader” and “skilled” in quite extraordinary ways. A deaf world was created for the hearing students to enter and experience, and they loved it. This suggests that developing signing skills and positive identities in a “segregated” environment, in the company of other sign language learning students, is a prerequisite for bridging the gap between deaf and hearing students and creating an “inclusive” environment that is supportive to both deaf and hearing students. The implication of this finding is that, if great care is taken in crafting and designing activities and tasks—and their participation frameworks—positive identities as students and future members of both Norwegian society *and* the signing Deaf community might be fostered. Being included in the edited volume (Bagga-Gupta et al., forthcoming), the paper contributes in general to further development of the concept of identity and possible ways of exploring identity negotiations.

2.2. Orchestrating student attention in a visually-oriented virtual classroom

The second paper was submitted to *Journal of Applied Linguistics and Professional Practice*. The paper takes the position that teachers' orchestration of students' attention in concerted activities constitutes a critical skill in their professional practice. I argue in this paper that this skill is particularly important in distance learning contexts, in which not all students share the same physical space, and their visual attention is challenged. Multiparty mediated settings constrain the way in which some resources, such as gazing and pointing, can be used, and somewhat complicate the teachers' continuous task of ensuring students pay visual attention to the ongoing learning activity. Hence, the teachers had to adapt some of their classroom strategies and practices. The research question in the paper is: How do teachers orchestrate student attention in a visual, multiparty, mediated environment?

This question is answered by investigating the teachers' (and students') use of multimodal resources to build concerted actions and activities in the virtual classroom. The data was examined with the aim of finding salient and recurring adapted strategies for orchestrating the students' visual attention in the multiparty video-mediated environment. The findings comprise a bundle of strategies and practices for establishing and sustaining an interactional space, and for coordinating shifts in attentional focus—all assumed to play a part in the teachers' orchestration of students' attention. Within these two broader categories, I first discuss the practice of waving in the beginning of lessons for establishing a common ground, and the establishment and maintenance of a “working consensus” of bodily posture and alignment in relation to the mediated visual space. I then demonstrate how teachers use a number of adapted practices: enforcing hand raising; using name-signs; turn-initial waving; holding of signs in turn-final position; and enforcing visible recipient behavior. Based on these findings, I argue three concluding points: first, the teachers' task of orchestration (i.e.,

monitoring, facilitating, organizing, and coordinating) comprises a critical skill in their professional practice for adapting to teaching in new environments; second, in order to communicate (also in general), the interlocutors seeing one another is not sufficient—rather, knowing what the other participants see is of critical importance; third, teachers orient to a much more complex range of multimodal cues than those provided by talk, alone, which suggests that such cues are crucial for understanding what is involved in new teaching settings such as the one investigated in this article.

The findings contribute to an understanding of teaching in “visually-oriented” and video-mediated environments. Focusing in particular on the teachers’ strategies and practices, I align with the emerging field of professional practice discourse studies within applied linguistics research (e.g. Sarangi, 2005; see also Goodwin, 1994). However, the relevance of the findings applies beyond the field of deaf education and signed language interactions. In particular, it is suggested that the orchestration of students’ attention in concerted activities in the classroom constitutes a critical skill in the professional practice of teachers when adapting to new environments, such as distance learning contexts in which not all students share the same physical space. Further, the findings also apply beyond mediated environments. On a general level, the findings suggest that through seeing and being seen by interlocutors, people simultaneously gain access to each other’s interpretive perspectives; this implies that it is necessary to know something about what or who the interlocutor is looking at.

2.3. Practices of organizing built space in videoconference-mediated interactions

The third paper (Hjulstad, 2016) is published in the journal *Research on Language and Social Interaction* (Routledge), in a special issue on the theme “Orders of interaction in mediated settings.”

The paper investigates practices used to address recipients during a videoconference-mediated classroom interaction. The video-mediated environment represents a “fractured” environment that constrains the way in which gaze and pointing can be used. One teacher, however, was found to employ a conspicuous practice by which the fractured multiparty video-mediated environment was managed through a new way of referentially mapping out participants in the visual space in front of him. The explorations in the paper show how the signing teacher and students build composite utterances that employ and juxtapose various resources simultaneously for coordinated action, recruiting the signing space to inscribe meaning. The teacher is shown to initiate a pointing procedure in a particular way so as to establish reliable addressing practices and next speaker selection, thus providing a solution for the “deictic” complexities of non-shared spaces.

In addition to improving our understanding of deaf education practice and interaction in video-mediated environments, the analysis has implications for orders of mediated interactions, in general. Being published in the special issue of *Research on Language and Social Interaction* on orders of mediated interaction, the paper takes part in academic discourses on the challenges people face when communicating over distance.

3. Embodied practices in deaf education

This chapter provides a background for the microethnographic study presented in this thesis. I will first mention a few of the influences that motivated the study. Then, I will discuss some of the terms used in this thesis before lining up some aspects of the organizational challenges that have characterized deaf education throughout its history. Finally, I will sketch the present model of deaf education in Norway.

3.1. Personal background

I have been surrounded by signed language interaction all my life. I grew up hearing, but because my parents were deaf I grew up using signed language at home. My parents were active members of the deaf community, but they also had a considerable network in the local hearing community. My acquisition of spoken Norwegian language was never a challenge, as I was surrounded also by hearing relatives, friends, neighbors, radio, television, and so on. I did not reflect much upon my family situation until after I finished high school and moved out of my childhood home. Growing up, it had felt “normal.” However, looking back, I now have a strong feeling of having grown up in two different cultures or worlds.

When I started my university education, I had no ambition of working with deaf and hard-of-hearing people; nor did I plan to enter the field in which I eventually developed my professional career. In need of a spare-time job, I figured that since I knew some signed language I could make some use of this. I contacted the nearby boarding school for deaf students and their immediate positive response was unexpected. I was surprised to learn that not all of the teachers and staff at the boarding school knew signed language, and discovering that my signing skills were appreciated had a considerable impact on me. I was offered a

position as a substitute teacher and entered the field of deaf education. This was the start of a profound learning process that has been of great value in both my personal and my professional life. From this experience, I gained a stronger sense and understanding of the interconnectedness between where we grow up and who we become. Following this experience, in 1992, almost all of the jobs in my professional career have been related to deaf or hard-of-hearing people.

This initial experience sparked an interest in language, language acquisition and learning, and language teaching, and led me to begin my studies in applied linguistics at NTNU. Applied linguistics can be defined as the scientific discipline that aims to employ knowledge on communication and language to solve communication problems and improve practice (Davies, 1999; Evensen, 2013). While applied linguistics has historically been occupied with studies of language education and language acquisition, during the last decades, a subfield of studies on interactions in institutional and professional settings has emerged—sometimes called “applied linguistics of professional practice” (Sarangi, 2005). Constitutional for this particular interdisciplinary applied linguistics approach is its clearly expressed ambition to apply knowledge about language and communication in order to solve practical language issues encountered by participants in professional communities in everyday settings. I return to this particular applied linguistic approach in Chapter 4. Sharing the ambitions of this approach, I have—both as part of my studies and in my professional life—worked with projects that have focused on issues regarding new communication technologies that allow for the use of signed language. My master’s thesis in applied linguistics focused on one such project. The objective of the project was to develop a model for The Norwegian Labor and Welfare Administration (NAV) to make their information accessible for signed language users online. Through my training in applied linguistics, I also developed a particular interest

in ethnomethodological conversational analysis and microethnographic investigations of social interaction. I am particularly attracted to the ability of such approaches to clarify what is going on in regular everyday conversations and usually taken for granted. However, I have experienced that studying the details of situated signed language interactions can be challenging. Through some early “hands-on” attempts at conversation analysis on signed interaction, I learned that there are many practical, methodological, and conceptual challenges connected to analyzing interactional practices that are signed and not spoken. Conversation analysis depends on mechanical recordings for scrutinizing the data, and analysis of video recordings offers some additional challenges compared to analysis of sound recordings. For instance, while an audio recorder records whatever sound is in the surround—which under normal conditions can be assumed to be audible by (hearing) participants—a video recorder also deals with issues of camera angle and whether what is caught on tape is the same as what participants see. Given these considerations, when I heard about the distance education pilot project, I immediately realized that the project could enable me to access very interesting data. The distance education project provided an interesting case of participants interacting through the use of video cameras—each pointing directly towards the face, torso, and hands of each participant—filming (and recording) the exact images the participants used to make sense of the interaction. This was interesting both from an ethnomethodological perspective and for its potential to enable scrutiny of the details of interaction. Besides, it is by no means clear what the change from a physical classroom to one that is video-mediated does to the communication situation, and what it is like for the participants. Thus, it was my ambition with this study to contribute to this field of knowledge.

3.2. Discussing terms

The main study object in the microethnographic investigations are interactions conducted mainly through the means of sign language within (parts of) the field of “deaf education.” This means I see deaf education as a relatively well-defined area in the educational sector, where the phenomenon of deafness has been variously organized throughout history, and, more specifically for the present study, where signed language interaction plays a shifting role in its organization.

Labeling an interaction “signed” implies that the main coordination and organization of the interaction is done through visual and gestural means; that is, through a “system” that uses sight and bodies in ways we recognize as having the properties of a language. Thus, I draw a conceptual difference between “signed language,” which I use to refer to the interactional activity of using the language, and “sign language,” which I use to refer to the system, itself. As my understanding of the usefulness of this differentiation increased as I worked through this thesis, at times some inconsistencies may occur. However, the embodied interaction approach I align with in this study holds that in interaction, multiple semiotic systems are always in play, and contend that no system studied in isolation can be fully understood without a grasp of the way in which it is orchestrated with others. This means that *all* interactional practice in deaf education—by necessity—is embodied and intrinsically multimodal, independent of whether or not the focus and orientation is on the visual and gestural modalities. Seeing deaf education in this way, I argue it is the role of and emphasis on the skills and knowledge of employing visual and gestural means in interaction, and how this has been applied in deaf education practice, that has shifted throughout history. Therefore, later in this background chapter I contextualize the micro-focus of this microethnography within the larger field of deaf education (and not just within deaf *distance*

education), and thus connect the activities on the microlevel with larger and salient aspects of the way in which deaf education is, and has been, organized.

The terms and vocabulary don't have "once and for all" or predefined meanings, and the ways in which they are used within the field of deaf education are by no means innocent. The perspective in the thesis is that no words "contain" or "carry" any meaning at all, but are used by humans as resources to build semiotic constructions that recipients can make sense of. Thus, the understanding and definition of the term "deaf" relate to the way in which deaf education has been organized throughout history. Drawing on the disability studies scholar Shakespeare (1996), one can distinguish between two ways in which the category of "deaf" is commonly applied. On the one hand, it is a label used by deaf people to describe who they are and who they identify with (a point I return to later). On the other hand, the label is involved when others—for example audiologists—make categorizations that apply to deaf people (e.g., relating to variations in levels of hearing). However, what makes this complicated is that such categories, in turn, may influence how deaf people speak of themselves, implying the two ways can only be conceptually separated. Various discourses can be identified and investigated in relation to the way in which "deaf" and other significant terms are used in deaf education (or in society at large), and the boundaries of what should be considered within or outside the categories—and thus, who has the power to influence such discourses (see, e.g., Bagga-Gupta, 2010 for a critical analysis of the discourses in deaf education). However, in this thesis, the term "deaf" is used similarly to the way in which the English speaking tradition uses it, to refer to any level of hearing loss, encompassing all categories in audiological terms, including mild, moderate, severe, and profound. In the following, I provide additional reasons why I find it useful to apply the broadest or most open definition of the category of "deaf."

In the Norwegian deaf education field and literature, there has been a tendency to use the combinatory term “deaf and hard-of-hearing” (*døve og tunghørte*) to cover the English “deaf” category. From my experience, this use is widely accepted in the Norwegian deaf community, as well as internationally (e.g., see the American National Association of the Deaf webpage: www.nad.org/issues/american-sign-language/community-and-culture-faq). In the Norwegian context, one often comes across the category “deaf and *severely* hard-of-hearing,” which is typically used to refer to students who attend or receive services from a deaf school (which may or may not indicate that they are signing students). This, then, is not a full category, as the distinction implies that mild or moderate “hard-of-hearing” (*tunghørte*) students are not included in this category. Further, there have been some indications that the “hard” (*tung*) in hard-of-hearing is somewhat derogative, and that “hearing-impaired” (*hørselshemmet*) is a preferred term. This might explain the occasional and slightly odd cases of referring to the total category by using “deaf and hearing-impaired.” However, it is most common in Norway to use “hearing-impaired” (*hørselshemmet*) as the general term for the total category (i.e., independent of the level of hearing). Other examples of terms used to refer to the whole category of people who are not fully hearing are “people/students with a hearing loss” (*hørselstap*) or “people/students with reduced hearing” (*nedsatt hørsel*). These terms seem to be fairly accepted in Norway, and while they used to be accepted in the English speaking population, they have now become more actively opposed. For some people, they create strong negative feelings as they establish “hearing” as standard and anything different as “impaired,” substandard, hindered, or damaged (see NAD).

My use of the term “deaf” also communicates the cultural and linguistic aspect of deafness. Many researchers have used the distinction deaf/Deaf to indicate a difference between hearing

loss, itself, and an affiliation with the deaf community. However, I see a problem in this usage. Even if “Deaf” signifies that the individual belongs to, identifies with, or is a member of the Deaf community (which may be a clarification), it leaves the more narrow “medical” definition of “deaf” untouched, and thus supports and strengthens the notion that what is “biological” is not cultural, but just a scientific fact. This must be problematized. “Social models” of disabilities have been criticized along these lines (see, for example, Ian Hacking’s (1999) book *The Social Construction of What?*). The critique holds that the creation of a dichotomy between the social and the medical is itself a construction, and, building on studies of technology and science, holds that it refuses the possibility of standing outside culture to view something as completely detached, as from a neutral space. Rather, the claim is that medical “realities” are themselves (cultural) constructs that are built through the practices and employed technologies of medical scientists (cf. Mol, 2002). The medical “realities” can be useful, but they too are multiple, and are no less a construction of reality. Thus, I refrain from using the deaf/Deaf distinction. However, admittedly, I am very sympathetic to the necessity of making it clear whether one uses the term “deaf” in the medical sense or the cultural sense.

3.3. The context of distance education within deaf education

In providing a background and context for the distance education program within deaf education, I consider three closely connected lines of organizational challenges in deaf education. The developments of deaf education throughout history can be said to tell a story about how certain important aspects of deafness have been organized within education; this is relevant for the studied distance education setting. All of these aspects can be seen in light of what the distance education program is supposed to take care of.

First, one aspect concerns the fact that educating deaf students requires specialized knowledge (methods, theories, and studies). This describes “the competence problem”—a thread stretching from the very beginning and all the way to the setup of the distance education program investigated in this thesis. This is, however, tightly connected to another aspect—the distribution of such specialized knowledge. Thus, the second aspect concerns “the distance problem”; that is, the geographic organization of deafness, in the sense of *where* deaf students can access to education. The third aspect concerns the organization of students in terms of their levels of deafness, or what I have chosen to call “the levels of deafness problem.” It is important to observe that the notion of “deaf” in deaf students and deaf education does not, and never did, mean that all the students are profoundly deaf (belonging to the same audiological category). In the following, I attend to each of these three aspects.

3.3.1. The competence problem

Deaf education has, since its inception, been an international phenomenon—particularly in Western industrialized countries—that has cut across national borders and educational systems. Deaf education grew out of the enlightenment era, and from the very beginning its development and tradition attracted much international attention, from both the scholarly and the general population. This interest in and orientation towards signed language, including communication and practice in visual and gestural modalities, has, from the very beginning, been a vital part of the deaf education tradition. Like in most Western countries, in Norway, the systematic schooling of deaf children (the organization of deafness within the education system) traces its history back to the late 18th and early 19th century. In the early period, there was support for what was known as the manual method for teaching deaf children, involving signed language with additional practices for making the written language available

to deaf children. The first school for the deaf in Norway was established in Trondheim in 1825, by the deaf teacher Andreas Christian Møller, who had been a student in Copenhagen between 1810 and 1815, and who later worked there as an assistant. The fact that Møller received his education and learned sign language in Denmark can account for some of the similarities between the Danish and the Norwegian sign languages. At the mentioned time, the teaching methods used in the school in Copenhagen were greatly influenced by the methods used in Paris at the first school for the deaf, which had been established by Abbé de l'Epeé (Skavlan, 1875 [2002]).

In 1848, the first school for the deaf in Norway that used what became known as the “German Method”— based on oral training—was established in Christiania (later Oslo) (Simonsen et al., 2009). With this, the internationally well-known rivalry between the manual and oral educational methods was found also in Norway. This rivalry has influenced how classroom interactions have been variously organized for the purposeful employment of modalities for sense-making and student learning. In 1881, legislation was passed in Norway stating that all deaf children should be secured education. According to this *Abnormskolelov* (“legislation concerning the education of abnormal children”), both the manual and the oral communication methods were to be used in teaching deaf children; however, each school could only follow one of the methods (Simonsen et al., 2009). Similar to what was occurring internationally, following a decision at the 1880 Milan Congress for Education of the Deaf, the oral method came to be most dominant over the next century. Gradually, sign language came to be known as something less than a language and thus not worthy of serious attention (Kendon, 2004, p. 64).

Further evidence of the early interest in the employment of visual and gestural modalities in communication and teaching can be read in a memorial volume written on the occasion of the 50th anniversary of the school for the deaf in Trondheim in 1875, by the priest and school principal Sigvald Skavlan (1875 [2002]). In this “festschrift,” Skavlan gave a historical summary of the development of schools for the deaf in Norway (including the methodological disputes that shaped these developments). He also provided a thorough discussion of the signed language of the deaf, and thus demonstrated that he was very well-informed about contemporary philosophy and scientific ideas concerning the status and utilization of signs and gestures at the time—and how these formed skills and knowledge relating to the education of deaf students. The text is an insightful exposition of the conceptions of the time on language and gesture, developed by philosophers such as Etienne Bonnot de Condillac and Denis Diderot in Europe around the mid-18th century (cf. Kendon, 2004, 2008a). These were thoughts about the nature and origin of languages that provided a climate in which the signed language of the deaf came to be looked upon with great interest. It was recognized by Condillac, among others, that signed languages were full-fledged languages (Kendon, 2008a). Skavlan was also well-informed of the signed languages of the Indians of North America (referring to Samuel Akerly and Degerando), which he used to argue against the misconceptions that signs are just “methodological” signs for visualizing spoken language. The text even contains a classification of the various signs of the language (e.g., natural signs, including a range of subcategories, metaphysical signs, and conventional signs), and gives an account of its variations (local and dialectal signs)—a knowledge he obviously considered part of what he called “deaf (mute) science” (*døvstumme videnskab*).

However, while the mentioned 18th century philosophy did not rate language in the gestural modality as any less suitable than language in the spoken modality, Skavlan’s text obviously

brings forward other influences. Even if he could be seen to defend signed languages and their use in deaf education, he carefully began the text with an excuse for his detailed treatment of signs and gestures, in which he tried to remove all doubt that speech is a superior form of expression:

Det er udenfor al Tvivl, at Talen er Menneskeandens ædleste og fuldkomneste Udtryk. Det er den, hvori Menneskets aandige Overlegenhed over alle andre Skabninger fortrinsvis lægger sig for Dagen. [It is beyond doubt, that speech is the human spirit's most noble and complete form of expression. This is where the human spiritual superiority over all other creatures mainly comes to light.] (Skavlan, 1875 [2002], p. 25, my translation)

Here, Skavlan curiously grounds his view in what seems to be an evolutionary perspective. He implies there is some sort of connection between the spoken form of expression and human spirituality, and that this is what (foremost) sets humans aside from all other creatures. Charles Darwin published his *Origin of the Species* in 1859, and this book radically changed the way in which humans were thought of in relation to other species. While Darwin had little to say about communication in the gestural modality, in his *On the Expression of the Emotions in Man and Animals* (1872) he showed that there are both intellectual and expressive continuities with apes and monkeys and other animals—ideas that came to be of immense importance for the later study of communicative behavior in both humans and animals (Kendon, 2004). Kendon (2004) emphasizes that Darwin had little direct bearing on the development of gesture studies in the 19th century. Considering that the fight over methods in deaf education began much earlier than Darwin's publications, it is possible that such perspectives also existed earlier. However, as a consequence of Darwin ideas, bodily expression in humans came to be seen as something primitive, connecting us to animals, and thus something to abstain from. Speech, on the other hand, was emphasized as the vehicle for man's great intellectual achievements and something that distinguished man from beast. "So

the idea began to spread that the manualist approach promoted primitivism among the deaf, it was retrograde, and denied to them the possibility of becoming fully human” (Kendon, 2008a, p. 354). Thus, the devaluation of the body’s participation in communication and interaction set a hierarchy of modalities, and was a (mis)conception originating from evolutionism that also fed the method rivalry in deaf education. The contamination represented by the early devaluation among modalities proved to be persistent, and can still be spotted, for instance, in attitudes that attribute high value and prestige to anything deemed relevant to “language” or “linguistic,” while dismissing anything that might be called “gesture” as something of lower value. This attitude can probably account for the compulsion within signed linguistics to distance signed language from gestures (Kendon, 2008a, 2008b). This is no longer the case, according to some researchers (Cormier et al., 2015), and this can admittedly be attested to by the increasing number of contributions from signed linguistic research to, for example, the journal and conferences of the International Society for Gesture Studies. However, what in my view conflates questions of modality with questions of language is a misperception that seems common across disciplines (e.g., Hauland, 2010; see also the claims of written language bias in linguistics in Linell, 2005).

The abandonment of the use of signed language in deaf education from the late 19th century was to a large extent concurrent with a decline in scientific interest in studying gestures. While the methodology rivalry in deaf education predates the decline in interest in the study of gestures, it can be assumed that much of the philosophical climate of the time influenced the way in which signs and gestures came to be viewed in the general population, and fueled discussions in deaf education. The embodied interactional approach taken in this microethnography draws on influences from the development of studies of gesture (cf.

Kendon, 2004; Streeck, 2009), and a comparison of deaf education with gesture studies shows considerable overlap in the ideas influencing the respective fields.

There is a close relation between deaf education and the development of deaf communities, and thus the development of the now recognized national sign language of Norway (NSL). In the beginning, schools for the deaf became sites where deaf people who were not attending the school would gather to meet other deaf people. After the signing methods were abandoned and deaf adults were not qualified to teach deaf students, deaf meeting places were organized outside schools for the deaf (e.g., the deaf club in Trondheim was established in 1898 and the local deaf congregation started its church services before the end of the 19th century). However, the boarding schools were still places where younger deaf students met with older deaf students and socialized into the deaf community. The signed language was very much kept alive outside the classroom—in the school playground, in the deaf clubs, and in the deaf congregation.

In the 1970s and 1980s, building on the linguistic research done in the USA by William Stokoe, a new recognition of the signed languages as fully natural languages emerged, and therefore the signed languages were once again considered suitable for education. In Norway, some teachers started to use some signing in classrooms, and, in the early phases, an ideology of “total communication” took over the oral method approach. Later, the total communication ideology became discredited as it was accused of representing an “anything goes” way of thinking. In the 1990s, the contention grew firm that the language of the deaf community was a full-fledged language, and thus it became understood that signing people in the deaf community should be seen as a linguistic minority. Further, deaf children were thought to be entitled to bilingual education—learning both the minority and majority language—according

to common practice with other linguistic minorities. It has further been pointed out that bilingualism of the deaf is a particular “bimodal” bilingualism (cf. Emmorey et al., 2008; Pritchard & Zahl, 2010). Linguistic research on signed languages has, during the last three or four decades, laid the foundation for deaf people to be seen as a linguistic minority, and has provided a new vocabulary for the way in which deaf individuals emancipate and empower themselves. It has been strongly argued that identification with deaf culture and deaf community represents a “gain” (e.g., Bauman & Murray, 2010). The argument is now that deaf students are bimodal, bilingual, and bicultural, and that this should therefore be reflected in the goals of deaf education. The national curriculum for Norwegian Sign Language (NSL) (2013) presently states that identification with signed language users and the deaf community is an important goal of deaf education in Norway. Thus, the thread throughout deaf education concerning the specialized skills and knowledge required to successfully teach deaf students must be seen in light of gaining access to environments that can support such developments.

3.3.2. The distance problem

Closely connected to the competence problem—and what counts as the right knowledge and skills for teaching a deaf student—is the concern for *where* this specialization can be accessed. Since this specialized knowledge is not evenly geographically distributed (while instances of hearing loss are), there is what I choose to call a “distance problem.” This is a background that the further developments of deaf education in Norway can be seen against. The particular geographical conditions can, to some extent, account for the development of the part-time programs at the deaf schools.

Before schools for the deaf were established, Skavlan (1875 [2002]) explained, there were occasional stories of individuals from various places who, without any “methods, theories, studies, or schools, but with compassion for the regrettable conditions of the deaf, had succeeded to a respectable level in providing deaf persons with rudimentary education.” At the time A. C. Møller was sent to school, Norway was part of Denmark, and the school for the deaf in Copenhagen (established in 1807) was where he gained his education. By the time Møller was encouraged to establish a school for the deaf in Trondheim, Norway was in union with Sweden and the local authorities (or *Stiftsdirectionen*) in Trondheim needed approval from the Swedish king to establish the “Institute” for the education of the deaf (Skavlan, 1875 [2002]). In the first period, students from all over the country were enrolled in the school. After schools for the deaf were established in other Norwegian cities (after 1848) and all deaf students were secured education (after 1881), Trondheim remained the northernmost place in Norway with a specialized school for deaf students. As a consequence of differing ideas of how deaf students should be taught, and following the *Abnormskolelov* in 1881 stating that each school could only follow one of the methods for teaching deaf students, a new speech school (*taleskole*) for deaf students was established in Trondheim. Thus, for a long period of time, the small city of Trondheim had two separate schools for deaf students, each subscribing to one or the other method. A division continued onwards in the special needs education system, with separate schools for deaf and for hard-of-hearing students.

The population of (northern) Norway was small and scattered and the travel distances could be great. Early on, students from the most remote areas had to take a five-day journey on the coastal express ship to get to school, and would only travel to visit their families once a year, during the summer. Later, students from the most remote areas would travel home to their families by airplane every other weekend and on holidays.

Related to the distance problem is the prolonged process of re-organizing deaf education, or moving responsibility for deaf students from the government to municipalities and local schools; this had consequences for the locations where deaf students could receive their education. In 1975, a new legislation was passed stating that the local municipality was responsible for teaching all children, even those attending boarding schools for the deaf. This culminated in the closing of all special needs full-time boarding schools (including “hard-of-hearing” schools) in Norway in 1992. At the same time, the national support system for special needs education was established, and many of the former staff of the special needs schools were employed here. They were given the role of being third-line support for the educational and psychological counseling service in the municipalities, which administered the special needs education in local schools. The threat of schools for the deaf being closed led to strong protests from the deaf community in Norway. The protesters argued that schools for the deaf should not only be seen as institutions for special needs education, but also as important cultural institutions for a national linguistic minority using Norwegian Sign Language. Further arguments were that these schools were among the few places where a “living” language environment could be found—where deaf children could socialize and acquire signed language in a fairly natural manner. The outcome was that schools for the deaf were the only special needs schools that were excepted from closing. The legal status of Norwegian Sign Language as an official language of instruction and teaching was confirmed in 1997, when the Education Act was amended with a new section (§2.6) stating that deaf students with signed language as their first (i.e., primary) language had the right to both learn NSL and use NSL in their education. However, the principle that local municipalities were responsible for their education was kept. This means that the government made a resolution that gave Norway a quite unique legislation compared to other countries, in that the right to

learn NSL and use NSL for learning was not connected to the place in which the students received their education. A series of other significant measures were taken. National curricula were made, an extensive signed language training program was offered to parents, learning material was developed, post-qualifying education for local teachers of mainstreamed students was administered, regulations of the Education Act recommended that local teachers have some (30 ECTS-credits) formal education in sign language, and part-time schooling programs were more systematically offered to mainstreamed students. All of this prepared the education of deaf students to be administered locally in municipality schools.

However, in spite of all the measures taken to prepare deaf students to become fully sign-bilingual, there were several indications that the still limited signed language environment at local schools did not provide satisfactory conditions for the development of bilingual skills. The justification for implementing a distance education program was partly based on reports from students' and teachers' experiences with part-time education stays. It was said that many of the students experienced a sense of having to "start all over again" when returning to a part-time education stay, due to the lack of continuation and long intervals between stays at schools for the deaf. Thus, the distance education program was set up as a supplement to the part-time education program to provide a more continuous offering to mainstreamed students.

3.3.3. The level of deafness problem

As implied in the previous sections, throughout the history of systemized education of deaf students in Norway, its organization has been administered according to "level of deafness." Historically, the medical discipline, special needs education, and legislation made a separation between deaf students with enough residual hearing to apprehend speech (in Norwegian, this

group is often referred to as “hard-of-hearing”) and deaf students who lack sufficient residual hearing to apprehend speech (in Norwegian, this group is referred to as “deaf”). This has, throughout, raised the question of how deaf education should be organized with respect to who should have what kind of education and access to what kind of environments, and what specialized knowledge and skills teachers should have. I call this the “level of deafness” problem.

Even Skavlan (1875 [2002]) pointed out that, at the 50th year anniversary, only about half of the students were actually deaf, meaning they could not depend on hearing as a resource for communication. Consider that, for the other half at that time, there were no hearing aids available. Thus, we must assume that quite a few of the students had significant residual hearing, compared with students with hearing loss today, who often benefit well from hearing aids. Skavlan (1875 [2002]) made it clear in his memorial text that, within schools using the manual method, there was discord concerning the best method of teaching students with some hearing ability. As mentioned in the previous sections, separate schools were developed for each of the methods; the manual method and the speech method. Later, by the separate schools for deaf students and hard-of-hearing students the well-known method rivalry in deaf education has to some extent continued.

Developments in hearing aid technology, implying that students are increasingly using their residual hearing, have also influenced who gets what kind of education. During recent years, between 90 and 95 percent of all children with congenital or prelingual profound hearing loss in Norway have been fitted with cochlear implants (i.e., advanced hearing aids) (Kirkehei, Myrhaug, Garm, Simonsen, and Wie, 2011). Following this, some people have claimed that the medical changes that have occurred in recent years have been “game changers,” in that

now very few students are profoundly deaf. Some even claim that this will cause signed languages to eventually become obsolete.

Whereas it might not be accurate to say that there is currently a methods rivalry in deaf education, the definition and implications of “level of deafness” and the determination of which programs are best suited for educating deaf students who, to some degree, can hear, are still debated within the deaf education field. The problem of how education should be organized along levels of deafness is relevant to the distance education program in determining who should be included in the bilingual program and thus receive the services of part-time schooling and distance education from Statped.

3.4. Present day deaf education in Norway

When the pilot project was initiated, changes to the structure of special needs education and deaf education were already taking place. In recent years, the national support system for special needs education, which was previously a network of resource centers, has been re-organized into a single governmental organization, Statped. Of the four government-run deaf schools that survived in the 1990s, only one is left: the A. C. Møller School (ACM) in Trondheim. The ACM school is currently in negotiations with Trondheim municipality about a possible merger with a local school or a transfer. The other three schools were either closed down or merged with municipality schools. In addition, Oslo municipality is running a “twin” deaf school (Vetland school, with approximately 80 deaf students) in connection with an ordinary local school. Also, a few other municipalities have organized the teaching of small groups of deaf students within local schools. Statped has cultivated a profile as a third-line support provider for the educational and psychological counseling service in the

municipalities, and gives a defined range of counseling services and courses to clients and their networks. A new model for deaf education is currently being implemented wherein mainstreamed deaf students are offered part-time education, including distance education. Counseling services are given to local schools on facilitating teaching and assistive listening technologies in the local classroom. Local teachers are offered courses at Statped while the students have their part-time schooling. The responsibility of the local municipalities is stressed through an administrative regulation that states that the principal at the local school is fully responsible for the part-time education program, even when the students are receiving their education at Statped. An annual cooperation agreement is worked out between the local school and the part-time education program, stating the learning goals for the students and specifying the amount of time the local teacher and the Statped teacher must dedicate for cooperation. The distance education setup is intentionally thought of as an arena for teachers in the local school and the part-time education program to collaborate and provide the students' a sense of continuous education. There are two ways that deaf students can be authorized participation in the part-time education program. Either the student receives a bilingual education program in the local school according to the Education Act section §2.6, or the local school principle decides that the student is supposed to receive signed language training according to the Education Act (special needs) section §5.1.

In the pilot project, and thus in my research project, participants included students with the right to signed language training according to both sections of the Education Act. I deliberately did not systematically collect any information about the hearing status of the participating students, or their legal status. My study was about the parts of deaf education that intentionally seek to train students in signed communication through participation in a

video-mediated environment, wherein moment-to-moment interaction is conducted through embodied and visually-oriented means.

An estimate claims that approximately 2.8 percent of students in Norwegian schools are diagnosed with hearing loss (Hendar & Lundberg, 2010). This amounts to about 160–170 students in every cohort, nationwide. The Norwegian Board of Health Supervision reports that between 50 and 60 infants are born each year with such severe hearing loss that hearing aids and cochlear implants are fitted/implanted. This number increases to approximately 100 by the time children start school (Norwegian Board of Health Supervision, 2000). Thus, the broad category of “deaf” children (or, in the term that would be used in Norwegian, *hørselshemmede barn og unge*) encompasses a very heterogeneous group; a great number of these children receive various services from Statped. Today, approximately 170 deaf students receive part-time education, and the program is currently working to build its capacity for distance education to supplement the education of most of these students.

4. Theorizing embodied participation

A common thread throughout this study—and in the included papers—was the question: What is it like to participate in classroom activities through signed language interaction in an environment that is video-mediated? In other words, how can we approach and understand what is involved when teachers and students meet and make parts of their bodies mutually visible in this semiotic ecology, wherein they cooperatively work to establish and sustain a sense of unified interactional space through visual orientation? These questions are already loaded with theory, and in the following I elaborate on the theoretical perspectives that influenced this study. In the background chapter, I explained my personal point of departure and my background in the practical field of deaf education, which, in many ways, also influenced my theoretical orientations. This affected what studies I chose—that is, in applied linguistics— as well as the approach employed in this particular study. Many researchers have made an effort to synthesize and label particular theoretical frameworks, and many of these frameworks overlap and build on the same founding perspectives and basic assumptions. In particular, four major theoretical frameworks and influences shaped my approach. All of them have similar assumptions and partly build on the same works; thus, they—to a large extent—overlap. These major theoretical influences come from science and technology studies (STS), sociocultural theory, dialogism, and, finally but foremost, embodied interaction in the material world. In this exposition of the largely overlapping theoretical approaches, I put most weight on the latter approach.

STS, which includes actor-network theory (ANT) (Latour, 2005), or what John Law (2009) prefers to call “material semiotics,” is not precisely referred to as a theory but rather a sensibility to the messy practices of relationality and the materiality of the world. I align with this approach to draw attention to a fine nuance in this theory chapter and my structure of it.

The science philosopher and ethnographer John Law (2009) writes that it might not be adequate to imagine theory as something already “out there”—readymade for application in the practical world. He suggests that we rather understand theories as threads that have been finely spun together in our practical work in the field we are investigating. Theory informs us of how we see what is being investigated, and can be understood as a set of tendencies and sensibilities that forms what we look for, the questions we ask, and the themes we choose, and gives us certain possibilities to act upon whatever we come in contact with. Theory does not freely float around “out there,” but is anchored in empirical work and made visible through the sets of questions, dispositions and sensibilities that are invested in empirical work; all of this is articulated together. As a consequence, instead of claiming that I used a (or someone’s) theory, I use another metaphor: in this study, I *aligned* myself to and tried to look in the same direction as certain researchers’ theoretical perspectives.

According to STS, it is not theoretical expositions on the foundations of scientific reasoning about the world that eventually give us knowledge of the world. Even if the approaches within STS build on foundational philosophical roots and philosophical reasoning too, it is the results of this thinking, rather than their origins that are of interest (Law, 2004). Thus, one of the basic ideas of STS implies an orientation away from epistemology and towards epistemography (or perhaps, as suggested by Mol (2002), praxiography). Proposing the plain view that science (or *wissenschaft*) is what scholars, researchers and scientists *do*, proceeding in this way becomes useful for uncovering the way in which researchers link ways of doing, thinking, and knowing. When I conducted research with the attempt of establishing knowledge of what it is like to participate in this distance education environment, I found that STS provided useful perspectives. Within STS it is claimed that “scientific communication is a defining quality of the practice of science”:

I am among those who think of STS as an interdisciplinary conversation among a wide range of “constituent disciplines,” rather than merely the social studies of science, technology, and society. (Hess, 1997)

I have framed this thesis as a contribution to the field of applied linguistics, and as a research apprentice in applied linguistics my PhD research project was influenced by a certain epistemic culture (Cetina, 1995). Thus, as a participant in applied linguistic culture, I brought along certain ways of approaching my research project. Accordingly, I start with some words about the epistemic culture within which my research was placed.

The particular “version” of applied linguistics I brought forth in my work was, from early on, highly influenced by Lars S. Evensen (2013). Evensen argues for seeing applied linguistics, in spite of struggles with internal differences, as an independent discipline and not as a subdiscipline of linguistics, and suggests that there is a need for a metatheoretical framework to address the issue of intellectual integration. He suggests that dialogism, or dialogical theory (e.g., Linell, 2009), is a suitable framework for the job. He refers to Widdowson (1980) when he opts for discussions towards a new alternative to the traditional paradigm, termed “linguistics applied.” Along with other applied linguists, he argues for a “major reconceptualization” of language, but admits this task is not an easy one. I broadly align with Evensen (2013, pp. 192–193), who argues for a unified relational way ahead for applied linguistics. Evensen makes a plea (in line with Van Lier, 1997) for ecological openness in applied linguistics. While he firmly disagrees with eclecticism and the idea that anything relational goes, he still contends that applied linguists need a variety of available approaches. A relational path implies a “refocusing the ontological search from entities to relations,” and thus a move from “the deeply theoretical to the deeply practical” (Evensen, 2013, pp. 189–191). He points out that the general research aim in applied linguistics is to solve certain

practical (language) problems in society. The aim of solving practical problems calls for an applied linguistics that is interdisciplinary in nature. No single approach is likely to cover all possible aspects of the problems of teaching language, whether they include teaching signed language, teaching in deaf education, teaching in technology-mediated distance education, or all of these combined. Further, a relational approach encourages close links between researchers, practitioners, and learners, “where mutual ‘excess of seeing’ might be exploited strategically in order to forge new insights” (Evensen, 2013, p. 191; cf. Bakhtin, 1990; see also Goodwin, 1994, 1995, 2001). My initial motivation to embark on this study also grew out of an orientation towards seeking solutions to practical problems. With this study I aimed to contribute to the understanding of what it implies to conduct deaf education through the use of videoconferencing technologies. However, rather than coming to the deaf education field as a researcher from the “outside,” I was—through my professional background in the field of deaf education and teaching of signed language—to a large extent already conducting “thick participation” (cf. Sarangi, 2005) within the practitioner field. And while I was not so much engaged in actually improving the practices of teaching, I was concerned with bringing the “voice” (or practices) of practitioners and learners into scientific discourses in ways that might be “ecologically valid” (cf. Cicourel, 2007) and eventually useful for practitioners and the enterprise of deaf education. This implied bringing the data and what I saw in it into scientific discourses of identity work, professional practice, and the orders of interaction in mediated settings. In this way, the “problems” of the practitioners and learners I studied contributed, through my work, to the ongoing communication (and problem solving?) within scientific discourses. However, this scientific communication was not done in any abstract or metaphorical way, but rather through specific and situated communication and discussion events with researchers in the scientific community, operating within various specific epistemic cultures. This ultimately shaped this thesis and the results presented in it. In trying

to follow the recommendation of doing an epistemography, and seeing scientific communication as a defining quality of the practice of science, this chapter provides a rather atypical exposition of theoretical assumptions for a doctoral thesis. The benefit of my approach, as I see it, is that it provides a (better?) frame through which to read the individual contributions made by the included papers.

4.1. What was I looking for?

The “problems” of deaf education are of course many, and exist on many levels (e.g., see Chapter 3). New models of educating and teaching deaf students through distance education and new participation technologies have instantiated specific issues that I focused on—and thus looked for—in this study. As I touched upon in the background chapter, there has been a centuries-long debate about which methodology (i.e., in terms of the language of instruction) is best suited for teaching deaf students. Stripped down to the basic condition of today’s deaf education, (some) deaf students will benefit from learning and being instructed through the use of signed language. As pointed out by a few researchers (e.g., Bagga-Gupta, 1999, 2004a), the notion of deaf (bimodal) bilingualism has been highly prescriptive, based on linguistic research and the establishment that signed languages are just as real as any spoken language. The argument is that if signed languages are real languages, then deaf people are bilingual and deaf education should have as its ultimate goal the education of deaf students to become functionally bilingual citizens. There is nothing wrong with this argument, but its prescriptive nature has a number of consequences and creates certain problems for the scientific production of knowledge on which the practices of deaf education are built. Thus, Bagga-Gupta and a number of other researchers instead call for non-prescriptive research on the actual, situated, and complex language use and practices of the everyday life of deaf

bilingual people and deaf education practice. Accordingly, in this thesis I align with approaches that investigate data in a non-prescriptive way. In arguing for ecological openness, Evensen (2013) points out that not all “ecological” alternatives are equal. In dialogical theory, the “outside” world is only understandable through human interaction; that is, the outside world is, phenomenologically speaking, a derived and secondary phenomenon (Evensen, 2013, p. 181). This implies that dialogical theory has a different social semiotics than most “Western” social semiotics, and this is consequential for the way in which we understand signs (in general). Put in the words of Bakhtin, any sign is a populated phenomenon, carrying other voices even before we infuse it with our own perceptions and voices. Evensen points to a hidden ontological controversy behind all this: “Simply put, dialogism starts with *people* where most social semiotics start with *system*,” and this is consequential because “a systemic approach can only with some difficulty capture the creativity frequently involved in human communication and language acquisition” (Evensen, 2013, p. 181). While the traditional language sciences have, for the most part, been— and still are—concerned with language as a system (i.e., something that has fixed form), a dialogical perspective is concerned with how we as humans use language in interaction with others. The object that is researched and focused on is thus human action and “linguaging” (Linell, 2009, p. 274; cf. Maturana, 1978; Thibault, 2011; Steffensen, 2011, 2012). The rationale of using “linguaging” rather than “language in use” or “language usage” is primarily to avoid preserving a conception that first there is language (understood as a system), which we then apply and use in situated interaction. The implication of starting with people, rather than the system, needs elaboration and specification: in relation to investigating data of human action and linguaging, the approaches I build on take a more specified starting point. Goffman put this clearly in the introduction to *Interaction Ritual: Essays in Face-to-Face Behavior*. The concern is about “Not, then, men and their moments. Rather, moments and their men” (Goffman, 1967, p. 3).

Thus, the quest to understand human action has primarily grown out of a sociological approach, rather than a psychological one. This is a significant point for research in deaf education, because it is a relatively safe claim that research into the field of deaf education has been dominated by perspectives of educational psychology (which is also true for the educational field, in general (e.g., Koschmann, 2011)). This means that the relative share of studies that closely investigate the moments (or events) of deaf education is small; thus, we are still left with relatively little knowledge of what actually goes on in deaf education practice (cf. Bagga-Gupta, 2004a; see also the research review on educational practices for deaf children and students; Hjulstad et al., 2015)). We know even less about what goes on when the teaching and learning are video-mediated across distant locations.

4.2. Looking, using video

When studying a video-mediated education setting using the same video data that the participants, themselves, used to interact, it is pertinent to take a closer look at the traditions of using video to investigate human action. Starting with the basic premise that we as humans understand the outside world through the use of language in interaction with others (i.e., “languaging”), and that this is always situated (i.e., conducted in a moment-by-moment manner, in what is often referred to as “communicative events”), means researchers are faced with the challenge of holding on to, or holding still, what actually happens in those moments. Looking for what is going on in such events necessitates using technology to capture the events, allowing for repeated inspection of the details in order to investigate the data (i.e., before writing down or transcribing what is observed). This is a tradition that, to a great extent, informed and influenced the ways in which I inspected the video data. Of interest to the work in this thesis is that the earliest instances of using “recording” devices to capture

details of human sociality began with the use of silent film. In addition to early use of (chrono)photography and film to observe movement in general and in ordinary life (e.g., Eadweard Muybridge, Étienne-Jules Marey, the Lumière brothers), silent film was, from early on, used to study visible human conduct in ethnographic studies (e.g., Félix-Louis Regnault and A.C. Haddon) (Meyer, 2013). Use of film or video is also an acknowledged prerequisite in most kinds of signed language studies. However, the particular history of using machine recordings of the contingent conduct of social interaction as a primary data source has been less influential in studies of signed languages.

What Erickson (2011) calls the “interaction revolution” has had little over 60 years of development. A particularly important development leading up to the (symbolic) “interaction revolution” was George Herbert Mead’s critique of methodological individualism. Mead argued against accounts of social life that take individuals and their individual experiences as logically prior to the social process in which they are involved (Mead, 1934, p. 222). In order to explain his view on interaction and the way in which human action is built, Mead expanded on Wundt’s psychology of what goes on in the body and what goes on in individual experiences that the individual recognizes as his or her own. Mead conceptualized gestures (i.e., in his notion of gesture as body movements and facial expressions) as early stages or beginnings of social acts, which can later become (language) symbols. He gave an “illustration of the dog-fight as a method of presenting the gesture” (Mead, 1934, p. 42) and, through this, he introduced his conception of interaction as a “conversation of gestures” (Mead, 1934, p. 43), in which: “throughout the entire process of an interaction, we analyze the incipient actions of others by our own instinctive reactions to changes in their posture and other signs of developing actions” (Mead, 1909, p. 219, in Streeck et al., 2011, p. 5). Thus, he turned our attention to the connection between bodies and language—a connection that also

allows us to catch sight of how imminent actions are usually foreshadowed (Streeck et al., 2011). In an ethnographic study of substantial influence to the development of audiovisual research, Gregory Bateson (Bateson & (Margaret) Mead, 1942) used silent cinema film in the 1930s to record Balinese dancers. Bateson “conceived of communicative processes as feedback systems within which each participant’s contributions are determined by and, at the same time, determine those of all other participants” (Streeck & Mehus, 2005; cf. Bateson, 1972). This new perspective was of great influence to the first audiovisual microanalysis of interaction.

However, it was later on that researchers started to use audio tape recorders to study naturally occurring talk. The very first instance of audio tape use was by William Soskin and Vera John, who, in 1953, audio recorded a couple of newlyweds in a rowboat on the shore of Lake Michigan conversing casually (Erickson, 2011). In the late 1960s and early 1970s, “conversation analysis” (CA) developed in sociology, and “interactional sociolinguistics” and “discourse analysis” developed in sociolinguistics and linguistic anthropology, where, in the early years, audio recordings were used as a primary data source. Only later did more and more conversation analysts and discourse analysts begin to use video recordings when, in the 1970s, a new technology called “videotape” was mass marketed, allowing for explorations of face-to-face interactions (Streeck, 2011). However, to a large extent, researchers continued to focus centrally on speech phenomena in their analysis, and if “non-verbal” behavior was represented in transcripts it was entered in as an add-on to the talk, which was foregrounded in the transcripts (Erickson, 2011). However, in parallel with the developing tradition of using audio recording equipment to capture naturally occurring talk, the less known tradition of using audiovisual recordings later turned out to be consequential for the theoretical framework I aligned to in this study, and thus influenced what I looked for in the video data.

In the 1950s, Gregory Bateson and a number of other researchers (McQuown, Hockett, Birdwhistell, Brosin, and Fromm-Reichmann) formed an interdisciplinary group at the Center for Advanced Study in the Behavioral Sciences at Stanford University, taking an approach that has come to be known as “the natural history of an interview” (NHI). This group conducted an in-depth study of a sound cinema film of a family psychotherapy interview that consisted of a conversation between Bateson and a mother, sitting on a couch in her living room with her kindergarten-aged child playing on the floor. There are a number of important aspects relating to how these researchers approached the data. They: a) made detailed investigations of the film from each of their disciplinary points of departure; b) took an empirical conservative approach in their initial analysis of the footage; c) did not want to privilege speech over non-verbal behavior in their analysis; and, equally important, d) paid equal analytic attention to the listening behavior of listeners and the speech behavior of speakers (Erickson, 2011; see also Leeds-Hurwitz, 1987). Relevant for further developments and the approach in this thesis is that Albert Scheflen and Adam Kendon, based on the beginnings of the NHI group, developed an approach that came to be known as “context analysis.” Scheflen focused on the cultural patterns and qualities of postural configurations, while Kendon investigated the interactional details of how spatial and kinesic configurations are achieved and sustained (Kendon, 1990; Streeck & Mehus, 2011). It should also be pointed out that Kendon’s work was greatly influenced by Erving Goffman’s analysis of organizational frameworks for interaction; this is equally true for most of the traditions that, in turn, were inspired by “context analysis.” Although Goffman has been criticized for not being specific and clear on his methodology, he developed a framework for the study of the “interactional order” that takes place in focused gatherings or encounters. He pointed out that in any gathering, participants provide information to each other in two ways: they *give it*, and

they *give it off*. While it is usually the “content of talk” that is treated as the object that is deliberately intended to be conveyed, the role of bodily stagings and ecological arrangements conducted while the talk is carried out is crucial to the way in which the event is organized. Thus, “[w]e owe Goffman a major debt for getting us to see this” (Kendon, 1988, p. 23). Kendon, in line with a handful of other scholars (e.g., Margaret Mead), complained about the artificial separation of verbal and non-verbal communication, insisting that “it makes no sense to speak of ‘verbal communication’ and ‘nonverbal communication’ as though they exist independent of one other” (Kendon, 1972, p. 443; LeBaron, 2005; Streeck et al., 2011). The context analysis approach “saw interaction as an ecosystem of concerted social action that was sustained across real time in the continuous verbal and nonverbal activity of all the participants” (Erickson, 2011, p. 388). Thus, the assumption from the NHI group that all communicative behavior of all parties engaged in communication is potentially meaningful, was upheld. Further, there was an emphasis on both the *sequential* organization of interaction and *simultaneous* organization of interaction. This implies that what the researchers looked for in the audiovisual recordings were both “connections of meaning and of influence of various interlocutors upon one another across successive ‘moves’ across time,” and “connections of meaning and of influence of various interlocutors that occur at the same moment in time—the ‘whiles’ of interaction” (Erickson, 2011, pp. 388–389). Thus, the approach maintained that “talk” and embodied interaction co-occur as interdependent phenomena and not separable modes of communication (it should, however, be pointed out that “talk” is embodied, too, as it is produced by the vocal organs). The focus was on the continuous mutual influence among co-participants in the course of interaction and the enactment of a social ecosystem in real time—or, as McDermott eloquently put it, in our interaction “[w]e are environments for each other” (McDermott, 1976, p. 27; Erickson, 2011).

These perspectives were taken up in the 1970s by a few groups of educational researchers in sociolinguistics, sociology, anthropology, and education that made use of the newly available video technology in what became to be known as “microethnography” (this was also the methodological design of the present study). A group of researchers, which included R. McDermott, P. Giffin, H. Mehan, J. Shultz, and F. Erickson, began to collect audiovisual samples of classroom behavior and collaborated on improving the analysis of data within the frame of ethnography of communication (Streeck & Mehus, 2005; see Hymes, 1964). Their efforts at the microanalysis of classroom behavior was also considerably influenced by work in ethnomethodology (see e.g. Cicourel & Boese, 1972, for an early ethnomethodological study in support of deaf bilingualism), and, to a lesser degree, CA. The investigations of the early microethnographers implied a different kind of work (or looking) than within CA (which generally collected evidence of recurrent phenomena across various contexts), and typically involved case studies of a setting (e.g., a classroom) or an activity (e.g., a classroom lesson). Thus, “whereas microethnographers share the empiric ethos of conversation analysis [...], they are generally concerned with phenomena too diverse and specific to allow for the kind of generalization and systematization that are the hallmark of conversation analytic work” (Streeck & Mehus, 2005, p. 382). The microethnographers aimed at studying “‘big’ social issues through an examination of ‘small’ communicative behaviors” (Lebaron, 2005, p. 494; Streeck & Mehus, p. 381; Meyer, 2013, p. 225), and thus it was foremost the “cultures” they described that were “micro” in these ethnographic studies. In addition to videotaping the interaction, they also applied methods from traditional ethnographic studies, such as interviewing and participant observation, in order to support the interpretations of the recorded contents. Microethnography takes as its point of departure the basic notion that, in any event investigated by microethnographers, the question “What is going on here?” is continuously relevant also to the parties under investigation, and also answered by them

(Streeck & Mehus, 2005). Put in the words of McDermott, Gospodinoff, and Aron (1978), “There is a close similarity in the primary problem facing ethnographers and other persons engaged in everyday life. This problem, common to both, is the necessity achieving a working consensus about what is going on in any scene available to their senses” (p. 246). Consequently, “[w]e can use the ways of making clear to each other and to themselves what is going on to locate to our own satisfaction an account of what it is that they are doing with each other” (p. 247). “Old school microethnography” studied participants’ methods of organizing events and focused on the ways in which participants displayed contexts to one another through embodied interactions such as gesture and postural configurations (Streeck & Mehus, 2005). The ethnomethodological point that researchers can make use of participants’ own ways of communicating to each other what is going on was, from the start, a very important point to me and a motivation for embarking on this study. Because I knew it would be possible to get access to the same video content that the participants themselves used, I felt that, in a unique way, this could provide assurance that I (as the researcher) would be able to explore how the participants collaborated to make sense across this environment.

By the early 1980s, however, a new framework evolved that Streeck and Mehus (2005) labeled the “new school microethnography,” which, in the widest sense, constituted a framework for the empirical, ethnographic study of human practice through the use of video recordings. In this period, researchers began to combine studies of behavioral organization—continuing the view that human activities are better studied with a focus on the details, in a moment-by-moment fashion—with the theoretical concerns of cognitive science. A new influence grew, under the recognition that “cognitive processes do not take place exclusively—not even in the first place—inside people’s heads, but in the outside world” (Streeck & Mehus, 2005, p. 387). The new school microethnographers saw cognition as a

collection of social, public, and interactive practices that evolve over time in specific historical, sociocultural settings, and only subsequently become activities that can be carried out “in the head.” In particular, there is a direct connection between the microethnography of classrooms in the 1970s and the work of American cultural psychologists such as Michael Cole (e.g., 1996) and James Wertsch (e.g., 1981). The cultural psychologists were strongly influenced by the sociohistorical school of Soviet psychology—most notably the work of Lev Semyonovich Vygotsky, who understood cognition as the use of “psychological tools” and thought that higher forms of human mental activity are always, and everywhere, mediated by symbolic means (Lantolf, 1994). The encounter between American cognitive psychology and (socio)historical materialism highlighted the idea that to understand the mind, one must study human intelligence *at work* (Schribner, 1984). Thus, cognition always involves language and social interaction, in some way (Streeck & Mehus, 2005). This influence led to a reconceptualization of cognitive processes—that is, thinking, learning, and other activities—as sociohistorically situated (cultural) practices. The sociocultural perspective has been influential in the educational field, and holds a relatively strong position in Scandinavia (e.g., Säljö, 2003). The notion of cognition as practice was also central to the work of the educational theorists and practitioners Jean Lave and Etienne Wenger (1991), who pioneered notions such as “situated learning,” “legitimate peripheral participation” (or apprenticeship; cf. Rogoff, 1991), and “communities of practice,” and saw learning as changing participation in evolving and changing practice. Their perspective on learning puts interaction at center court (Sahlström, 2011); or, in Lave’s own words:

There is no such thing as “learning” sui generis, but only changing participation in the culturally designed settings of everyday life. Or, to put it the other way around, participation in everyday life may be thought of as a process of changing understanding in practice, that is, as learning. (Lave, 1991, pp. 5–6).

Their idea is, as William F. Hanks writes in his foreword to Lave and Wenger's (1991) book, that "learning is a process that takes place in a participation framework, not in an individual mind [...] Learning is, as it were, distributed among co-participants, not a one-person act" (p. 15). Thus, in the context of this study, students and teachers came together and interacted in part-time stays at schools for the deaf, as well as through participation technologies from across various local schools where their joint activities "online," were inextricably embedded in a community of practice. In the video data, I examined how they appropriated their "psychological tools" (Vygotsky) or "meditational means" (Mead) of signed language, use of the technology, and the participation framework, itself, in these locations. Through their contingent and changing participation, they learned how to participate in the community of practice within deaf education; thus, their individual minds were produced through cultural apprenticeship (cf. Streeck et al., 2011). In this way, they may eventually and gradually become members of the deaf community and bilingual members of Norwegian society (cf. Sford, 1998, p. 6). This perspective sees learning as social action (Sahlström, 2011), and it follows that: "At the very least, a basic minimalist understanding [...] is that if learning is understood as situated and constituted in interaction, studies on interaction will provide for better understanding of learning" (Sahlström, 2011, p. 45).

The new school of microethnography considerably expanded the range of phenomena studied and the questions asked, and consisted of a large body of microanalytic work that has reappeared in recent years, wherein researchers use video to look at (i.e., to make systematic investigations of) the way in which multiple participants build action together in the midst of situated interaction (Streeck et al., 2011). There is no single name for this strand of work, as the focal interests are diverse, but when taken together, the various approaches form a consistent whole, drawing on records that preserve not only talk, but also the bodies of the

studied actors (Streeck & Mehus, 2005). Such studies are labeled “cognition as practice,” “communities of practice,” “workplace studies,” “activity theory,” “distributed cognition,” and “cognitive ethnography,” among others (Streeck & Mehus, 2005, p. 387). The originality of these kinds of studies is perhaps found in the disassembling of the conceptual differentiation between communication, cognitive processes, and physical action. Rather, they understand that thinking and imagining can be done with eyes and hands, as well as the material objects at hand (Streeck & Mehus, 2005, p. 390). Within the diverse range of studies, the importance of the material setting as a resource and medium of interaction and sense-making is increasingly apparent. “We not only communicate with our voices and bodies but also with material objects” (Streeck & Mehus, 2005, p. 389; Streeck, 2011). This idea was, in particular, taken up by Edwin Hutchin’s cognitive ethnography approach. He focused on the exact ways in which cognitive technologies of various kinds, with their specific affordances (cf. Gibson, 1979), incorporate the knowledge of previous generations to enable practitioners to offload—or distribute—tasks from the brain to the external world (Hutchin, 1995; cf. Streeck & Mehus, 2005). This strand of microanalytic work brought about a reconceptualization of embodied interaction as multimodal, and a subsequent recognition of the importance of material contexts and artifacts. The work overlapped with and drew a lot of inspiration from the two new interdisciplinary research programs of workplace studies and science and technology studies (STS). These research programs paid attention to the contingent, local production of practical, normatively accountable actions in the context of labor; however, they did not focus much on conversational interaction. One major contribution of the STS research program was the recognition of the prime importance of physical objects—or “things”—and how the order of things is locally produced (Streeck et al., 2011). They developed the insight that “things” don’t have stable or fixed properties, but rather properties that emerge through practice (cf. Latour, 2005).

The studies of the new school of microethnography (and its precursors) inspired Streeck, Goodwin, and LeBaron's theoretical framework of "embodied interaction (language and body) in the material world." This approach takes as its focus the organization of action in human interaction (Streeck et al., 2011). A common assumption is that action is built through the mutual elaboration of different kinds of semiotic resources—including culturally structured ones such as language—to interactively organize multiparty action. Thus, such studies provide an integrated perspective for investigating a host of crucial phenomena that are central to the organization of human action, cognition, and social life (Streeck & Mehus, 2005). Significant to my point of departure from an epistemic culture in applied linguistics, which finds its foundation in dialogical theory (cf. Evensen, 2013), is that the authors claim this framework is largely consistent with "contemporary work in Europe, such as Linell (2009), which is attempting to rethink language, the mind and the world dialogically" (Streeck et al., 2011, p. 3).

Contemporary microethnography shares its methods with most interactionist analysis, but most notably CA—wherein research based on video data and dealing with aspects of bodily conduct in interaction has been very much on the rise for the last decade (Neville, 2015). Within CA, this approach is often coined "multimodal interaction" (Stivers & Sidnell, 2005; Mondada, 2014), and represents an increasing awareness of the relevance of the full array of visible and audible resources. Many of these studies are—or might as well be—included among studies that constitute the approach of embodied interaction in the material world. The influences of this approach on CA were evidenced at the International Conference on Conversation Analysis 10 (ICCA 10), on the theme of "multimodal interaction," which took place in Mannheim in 2010. The four plenary talks were given by Charles Goodwin, Christian

Heath and Paul Luff, Lorenza Mondada, and Jürgen Streeck—all of whom are among the most prominent contributors to the development of the framework of embodied interaction in the material world. The “multimodal turn” (Deppermann, 2013), or “embodied turn” (Nevile, 2015), is a consequential move for the CA discipline, and doing research on embodied and multimodal interaction within a CA framework raises basic methodological and theoretical questions (Deppermann, 2013). While it is uncontroversial to claim that human social interaction involves the intertwined cooperation of different modalities (Stivers & Sidnell, 2005), as previously pointed out (e.g., by Kendon, 1972), some researchers question whether it makes sense, phenomenologically, to speak of bodily interaction in terms of “multiple modalities,” as if they are separate channels that need to be put together. Others claim that the term is already worn-out through its use in various strands of semiotics, discourse analysis, and media analysis (Deppermann, 2013; cf. Streeck et al., 2011, p. 9). While there are early examples of research on bodily interaction within the framework of CA (e.g., Schegloff, 2002), the recent re-orientation in the CA tradition has led to a “re-discovery” of earlier work and the tradition, as described in this section.

Two embodiment-grounded notions that are increasingly appearing and gaining acceptance (Nevile, 2015) are Goodwin’s (e.g., 2000) notions of “semiotic resources” and “semiotic fields.” Goodwin argues against “the usual analytic and disciplinary boundaries that isolates language from its environment and create a dichotomy between text and context” (p. 1490). Instead, he proposes that, within interaction, participants use multiple and simultaneous semiotic resources. These assembled and understood semiotic resources, which are instantiated through various mediational means (i.e., different kinds of sign phenomena), form semiotic fields that are juxtaposed in such a way that they can mutually elaborate each other. Arrays of semiotic fields, then, which participants demonstrably orient towards, are

conceptualized as contextual configurations (Goodwin, 2000, p. 1490). This provides a perspective that I consider particularly apt for signed language interactions, wherein the articulators used to produce intelligible actions are distributed to various parts of the body. Seen this way, in the context of video-mediated environment, the signed language and gestural actions through which situated interactions are accomplished—i.e., through the temporally unfolding juxtaposition of quite different kinds of semiotic resources of the body (involving the hands, head, mouth, gaze, eyebrows, and torso, as well as their directional implementation of meaningfully imbued environment)—are made publicly and mutually visible through video streams. These video streams are the sites of a range of structurally different displays, which are implicated in the actions of the moment (cf. Goodwin, 2000, p. 1492). Thus, seen together, this points towards a semiotic ecology of the virtual classroom, wherein participants organize and coordinate their actions. In this perspective, what is text versus context dissolves, as the relation is mutual: the context is also created by the act (Gumperz, 1992; cf. Streeck et al., 2011, p. 5). I consider this understanding incredibly important and consequential for language learning and the analysis of situated interactions.

In summary, I looked for embodied participation in the semiotic ecology of a visually-oriented virtual classroom in order to investigate what it is like to participate in classroom activities through signed language interaction in a video-mediated environment.

4.3. The process of asking questions: Bringing it together

The process of asking questions in this thesis implied converging issues in the field of practice with current themes in academic discourses. As mentioned initially in this chapter, theory not only emerges through what we look for, but also through the sets of questions asked and the themes chosen for examination. The questions asked (see section 1.2) when investigating the recordings of the virtual classroom interactions were initially actualized by issues and “problems” within the field of deaf education and the particulars of the research setting. By asking the main question, I brought together each of the questions in the specific contributions to substantial discourses in academia. Together, the individual questions comprise a single contribution to the field of applied linguistics. Each of the questions asked in the individual papers of this thesis were reshaped and developed as the result of tension between what was actualized in: a) issues and concerns around and within the participants’ field; and b) particular issues that are thematized and discussed within the research community. Adjusted, reshaped, and contextualized in confrontation with rather distinct communicative events and current discourse processes within academic communities, the answers presented in the papers contribute to particular scholarly discourses. For the purpose of structure in this section, I first deal with each of the questions and attend to their source of actualization in the practical field. Then I substantiate the particular academic theoretical discussions to which the issues from the practical field were relevant. Finally, I describe how the particular empirical investigations in the papers contributed theoretically to the academic discourses.

4.3.1. Connecting issues in the practical field of deaf education

In the previous chapter I outlined the larger ethnographic context of this study and the present situation of deaf education in Norway. Both the distance education program and the study attracted quite a bit of attention from people who were familiar with deaf education (e.g., within Statped). During the study I was approached by many people, each with different knowledge interests and concerns, and was asked a number of questions concerning what my study might reveal. Against the background of recent changes in deaf education in Norway and the Western world, certain concerns influencing the discourses of deaf education have been raised. Mark Marschark, one of the most renowned researchers in the field of deaf educational psychology and editor of the leading academic *Journal of Deaf Education and Deaf Studies*, claims there have been more changes to deaf education over the last 30 years than in the prior 200 years of deaf education history (e.g. Knoors & Marschark, 2014). The politics and conception that inclusion is always the better way to organize special needs education has had a strong influence on the Norwegian school system, with its strong unitary ideal; this then made its way into educational legislation (see section 3.3.2). The fact that most deaf students in Norway receive most of their education at their local mainstream schools (usually as the only deaf student) has brought about concerns relating to the present condition of deaf students and how well they are doing in school, both academically and socially. Reviews of research indicate that these concerns are well-founded (see Chapter 7). Reports from various research, both national (e.g. Hendar) international (e.g. Xie et al., 2014; Antia et al., 2009; 2011), indicate that even if many deaf students seem to do well, both academically and socially, the claim that deaf students struggle in mainstreamed settings is justified (Hjulstad et al., 2015).

This concern is also apparent in the practical field of deaf education in Norway. One of the concerns that has been raised in the context of the new models of deaf education (described in section 3.4) is whether deaf students who meet with other deaf students only a few weeks (2 to 12) out of the year (for part-time schooling) will learn signed language to the same level as earlier generations of deaf students, who attended the schools for the deaf on a full-time basis. This has led to several related concerns, which I was confronted with from practitioners in the field of deaf education.

First, a concern was raised relating to the idea of initiating a distance education program. Initiation of such a program assumes that participating in online education can, in some way, *compensate* for meeting in real life (face-to-face) in a signing classroom environment. It is by no means clear what constraints or possibilities a video-mediated environment implies for the learning situation of these students, and I addressed this concern in my study. However, this raises the question of how my research relates to learning. It would have been much too complicated to compare learning in the studied environment to learning in real classroom environments. Thus, my approach built on three theoretical premises: a) understanding interaction provides a deeper understanding of learning (e.g. Sahlström, 2011); b) learning is not easily pointed to, as it does not happen in distinct, “a-ha,” moments; it is a large concept that is not easily studied in a moment-by-moment fashion, but is rather a longitudinal phenomenon (e.g., Erickson, 2011; McDermott, 2011; Sahlström, 2011); and c) studies of learning from a microanalytic perspective hold promise, but are still developing—that is, through their ability to demonstrate “how participants come to find their learning objects, problematize and act on them in the course of interaction through their situated language use” (Lee, 2010). In many ways, this study contributes to our understanding of deaf education

practice and learning by bringing attention to a particular way of looking (using video-based and CA-inspired methods).

Second, there was a general worry about whether participation in deaf education via participation technologies across distances would require participants to have sufficient signing skills *before* entering the program. The concern was whether the students' signing skills—which had been developed through meeting in a signing environment for only a few weeks a year—would allow them to participate and learn equally well in the video-mediated setting (where no sound was transmitted), as they would in an ordinary classroom setting. Thus, there was an expressed interest in whether my study would address and reveal specific results about the current status of the students' skills level.

Third, a related concern revealed a certain skepticism towards the idea of having the students meet through participation technology. The implied fear was that if these students met via participation technologies, it would be possible for the authorities who funded the travel and arranged the part-time education to eventually argue that it would not be necessary to bring these students together to meet physically. The possible consequence of this could be that these students would be even more deprived of contact with other deaf students.

Fourth, there was an evaluative flavor to the abovementioned concerns—a tacit underlying expectation that my study would evaluate the quality of the program, itself. Thus, the following disclaimer should be given: it was never my intention to evaluate the program, and doing so would have been somewhat unfair to the participants in the program. My data was collected in the first trial period of a pilot project, which contained both errors and mistakes

(as well as successes), as all of the participants were in the process of familiarizing themselves with participating in this environment.

Finally, I was asked: “Does it work?” (i.e., teaching deaf students in this way). The simple answer to this question is: Yes! However, as demonstrated by my investigations in this thesis, it works because the participants interactionally cooperate to make it work!

Nevertheless, my study is accountable for its possible effects. Doing research on what is sometimes called a “vulnerable group” (see the webpage of NSD, the Norwegian Centre for Research Data: <http://www.nsd.uib.no/personvern/forskningstemaer/sarbar.html>) calls for proper attention to research ethics. This implies not just following the duty of confidentiality, but also being sensitive to how the research might be used and ensuring that it is not conducted in a way that could be harmful to the group studied (see also Chapter 7). This is, for instance, actualized by the third concern mentioned above, relating to possible future consequences for the educational policies relating to this group of students. This study might not have evaluated the program, but it might be read as having done so. Thus, it calls for sensitivity to such issues when it is brought up in the deaf education field. It is important to point out that the design of the study was not suitable for addressing all of the above concerns. Rather, this was a fundamentally empirical study, focusing on what was actually going on. By learning from the analyzed practices, however, the study may have implications for deaf education practice.

4.3.2. Selecting issues to pursue

It is important to be sensitive to the concerns of participants and stakeholders in the wider practical field I researched. However, I chose to pay most attention to the concerns of the people closest to the activity; that is, the students and teachers, themselves, as revealed, primarily, from the video recordings, with the additional support of interviews and observations. My aim was—as is usually true of interaction analysis—to capture and examine what was significant for the participants, themselves, in situ, and how they made sense of and ordered this environment.

I have already explained that some of my motivation for this study was my knowledge that the distance education program might provide easy access to the video data that the participants used to make sense across this online environment. Having a camera pointing towards and recording each of the participants through finely synchronized video streams allowed me to keep track of the details that were used by participants to coordinate their embodied actions. This have given me access to the semiotic resources the participants employed to show each other how they made sense across the virtual space. It is, however, equally important to thoroughly consider what is accessible and inaccessible for investigations, and thus to clarify the conceptual and empirical substantive elements of local and larger institutional environments (cf. Cicourel, 2007). Many aspects of the study were not available and thus questions relating to these aspects could not be answered. For instance, the video recordings may show participants moving their bodies or touching something, but as an analyst I could not know for sure what they were feeling or experiencing (e.g., in the case of kinesthesia—the ability of the human body to feel its own movements and states) (Nevile, 2015; Streeck, 2013). “[Our] our movement is everywhere and always kinesthetically informed” (Sheets-Johnstone, 2011, p. 113, in Streeck, 2013).

In general, researchers ask questions to select what to attend to. However, determining the questions and themes to pursue in a microethnographic study of this kind is bound to touch upon the issue of selection. Systematic, video-based ethnographic field research may enhance ecological validity (cf. Cicourel, 2007). However, video-based field research has its own drawbacks, because there are always selectivity issues associated with labor-intensive case studies such as the one presented in this thesis (cf. Cicourel, 2007, p. 737). In the narrow microanalytic focus and the labor-intensive work associated with embodied interaction analysis of video recordings, the amount of available detail can sometimes be overwhelming (Nevile, 2015). Thus, it should be clear that by asking an overarching question, this PhD thesis is not able to cover all aspects of the question equally well.

4.3.3. The selected issues

The questions asked when working with the video data (as well as during participant observation of teachers' meetings and interviews with students and teachers) focused on different aspects, timeframes, and levels of analysis. The first paper investigates a particular teaching plan (over five lessons in one group) and its evidence of success, with relevance for identity development. The second paper investigates teachers' professional practices by questioning the way in which teachers orchestrated attention and adjusted their practices across lessons. The third paper investigates the order of mediated interaction by closely scrutinizing a particular conspicuous practice that was initiated by one teacher in order to build interactional space—as illustrated by a 1-minute sequence. There is no doubt that other aspects of what was occurring in the classrooms could have been focused on.

4.4. (Re)visiting Identity: First question

The first paper deals with questions concerning identity, which is relevant to the present situation in deaf education. The significant and substantial changes that have occurred within the field of deaf education over the last half century are well-documented in research. In Chapter 3, I uncovered how the further and more recent changes made by the Norwegian government with respect to policy and the organization of deaf education implies that the government's role in deaf education has been reduced to supporting the local municipality education of deaf students. It was further mentioned that, in the new model, deaf students who are entitled to learn and be taught in Norwegian sign language can—in addition to being entitled to tuition in signed language at their local schools—enroll in a part-time educational program within signed language rich environments. Further, as an additional supportive measure, the distance education program—which, at the time of data gathering, was organized as a project—is now a part of the model for educating sign-bilingual students in Norway.

The most recent changes in education policy concerning deaf students are consequences of a trend of a decreasing number of students attending residential schools for the deaf on a full-time basis. However, what makes the situation interesting to questions of identity must be seen against the background of the developments after linguists in the 1960s, claimed that American Sign Language—and consequently most signed languages—was as real a language as any spoken language. Also, linguistic research on signed languages has contributed theoretically to our understanding of language and communication, in general (cf. Keating & Hadder, 2010). While deaf people—also before the “re-discovery” (see Chapter 3) of signed languages as real languages—had a sense of belonging to a “deaf world,” they profoundly changed the way in which they looked upon themselves. Deaf people gradually rejected and

opposed a pathological view of deafness, and instead promoted a cultural view of deafness. Thus, they came to see themselves as belonging to a linguistic minority and a deaf culture. This deaf culture has its origins not only in a shared condition of impairment, stigmatization, institutional affiliations, and shared technology (Keating & Hadder, 2010; see also, e.g., Holmström, 2013; Haualand, 2012), but above all in the distinctive forms of communication that evolved within the community of practice (e.g., Padden & Humphries, 1988; Ladd, 2003). Thus, many deaf people do not think of themselves as impaired, but rather consider themselves members of a community representing a culture they proudly identify with. Individuals in the community now have a new vocabulary they employ in the service of emancipating and empowering themselves (e.g., Bauman, 2008; Lane, 1995).

The issue of deaf identity has attracted a lot of attention, both academically and in the lay community, and instantiated much research on deaf identity, both internationally (e.g., Senghas & Monaghan, 2002) and in Norway (e.g., Breivik, 2005; Ohna, 2004). However, the unique ways of socializing in deaf communities have been challenging for language socialization theory (Erting & Kuntze, 2008). Only a small percentage of deaf children are born into deaf culture (i.e., to deaf parents). This means that, for most deaf children (i.e., deaf children with hearing parents), educational institutions play a central role as the primary sites of socialization into deaf culture. These institutions are also central in producing notions of cultural deafness and signed language development in deaf students; that is, in transmitting deaf traditions (Sengas & Monaghan, 2002; Keating & Hadder, 2010). As an increasing number of teachers from the late 1970s onwards used signs when teaching deaf students, deaf education practice changed, and the full recognition that deaf students were entitled to learn and be taught in Norwegian Sign Language was admitted in 1997/8 in a new amendment to the Education Act (e.g., Vonen, 1997; Ohna, 2003). Importantly, this also recognized

identification with signed language users and the deaf community as an important goal for deaf education, and implied that bilingual education for deaf students is “normal” education, and not special needs education. The situation in Norway is set apart from that of many other countries, in that the new educational legislation unties the right to learn and be taught in signed language from schools for deaf students. As more students become mainstreamed, it becomes implied that students are supposed to become sign-bilingual and bicultural, in spite of limited contact with a signing community. Thus, against this background, it is relevant to ask questions about how these students come to identify with deaf culture and the signing community. Given that the technology-mediated distance education program was set up to provide these students with an additional arena for signing, it becomes relevant to ask: In what ways can the new video-mediated classroom environment influence identity negotiations?

With this question in mind, I encountered many examples throughout the data of this microethnographic study wherein issues of deaf identity were made relevant. In alignment with the perspective of embodied interaction in the material world, the students’ self can be seen as mediated by interaction and inextricably embedded in the community of practice. Their individual minds can be seen to have been produced through cultural apprenticeship: their signing implies that the resources they employed were signs “borrowed” from the deaf community in order to shape themselves and their utterances through communal means. Thus, “[i]n every act of speaking [or signing], individual and society are intertwined” (Streeck et al., 2011, p. 5, brackets added). In the data, there were examples of teachers directly introducing and thematizing issues of deaf identity in their teaching plans. For instance, some teachers discussed what it means to be deaf, highlighting the differences and similarities between perceptions in the deaf and hearing communities. In one such teaching plan, students watched

and discussed a YouTube video wherein British signing young girls, wearing clothes that typically signal cultural affiliation with Muslim traditions, performed (in the style of a music video) a rap song about how being deaf does not mean being dumb (https://www.youtube.com/watch?v=zK_G-h1uep8)—referring to a common perception of persons who are not able to “follow along.” Also, some teachers made the issue of identity relevant more subtly, as in a lesson wherein students met online with full-time students of a Swedish deaf school. However, it was only after I confronted discussions within academia and research on identity that I decided to pursue some of the particular empirical potentialities my data provided.

4.4.1. Academic discourses on identity

Questions of identity have become central and widespread in contemporary social life. Identity is, however, also a heavily theorized academic concept. Identity as a field of study is both vast and complex, covering a multitude of identity categories (e.g., gender, race, nationality, disability, and many others). The concept has been focused in a range of ways within various disciplinary arenas, such as education and health sciences, including the multidisciplinary fields of language and communication studies, disability studies, gender studies, ethnicity studies, and many more. Thus, a great variety of academic disciplines and theoretical positions have studied identity within a no less various range of settings, and this varied use of the concept adds to its complexity (e.g., McCall, 2005). It has unfolded from “early treatments of identity as a self-fashioning, agentive, internal project of the self, through more recent understandings of social and collective identity, to postmodern accounts which treat identity as fluid, fragmentary, contingent and, crucially constituted in discourse” (Benwell & Stokoe, 2006, p. 17). There is now a growing consensus in the research field that

“identity in all its complexity can never be contained within a single analysis” (Bucholtz & Hall, 2005, p. 607). This unfolding trend was also the point of departure for the international multidisciplinary workshop REID, which took place in Örebro in October 2013. The “REID—Revisiting Identity – Embodied Communication Across Time and Space” workshop was hosted by the CCD (Culture, Communication and Diversity) research group at Örebro University. As indicated in the title, the workshop suggested that it is time to revisit the concept of identity. Criticizing the fact that identity has often tended to be discussed in terms of what can be called “identity sectors,” the workshop instead put forward the ambition to challenge static and demarcated descriptions of identities. Taking the social practice perspective that both institutions and individuals are shaped by the “living and daily doings” of human beings in these settings, the workshop invited contributions exploring the performing, living, and doing of identity positions across time and space. As elaborated above, this perspective is particularly apt for the approach of my microethnographic study. The workshop called for, in particular, contributions taking an intersectional and empirical analytical stance. The following questions set out what they hoped would be explored:

- In what ways do microlevel analyses of naturally occurring human communication contribute to our understanding of identification processes?
- What kinds of theoretical-analytical framework(s) allow for attending to the complexity and dynamics of identity processes?
- What are the ways in which institutional settings, media settings, communities of practices, and affinity spaces provide affordances and obstacles for specific identity positions?
- In what way can shifts in identity positions be traced across time and space (in interactional and/or historical data)?

Confronting my data with these questions, the research questions started to take shape. In particular, the workshop's request for an intersectional empirical analytical stance made me think of a particularly interesting series of lessons and a "friendship" teaching plan in my data, which the participants, themselves, described as successful. While the participants also—to some extent—made relevant the fact that they also have other identities (as boys, girls, students interested in sports, etc.), it was intriguing how being deaf seemed to become such a powerful identity that it drowned out other possible identities. Recall that the distance education program was set up to provide an arena for exclusively signing (deaf) participants to interact. However, on the initiative of one of the students, they decided to invite hearing friends to their visually-oriented virtual classroom, thus actualizing issues of how their deaf identities were played out when meeting with their hearing friends. The empirical investigation of the recorded data indicated a potential contribution (at least partially) to the first three questions outlined above. Thus, I submitted an abstract to the workshop, was accepted, wrote a workshop paper, and prepared and presented my material. The workshop provided useful feedback, which allowed for a more focused and refined analysis of the data. Several other contributions to the workshop also dealt with the issue of deaf identity.

4.4.2. An empirical contribution to academic discourses on identity

After the workshop, a call for papers was made for a book based on the workshop contributions. The first paper in this thesis is an empirical contribution to the edited book, *Identity (Re)visited and (Re)imagined. Empirical and Theoretical Contributions on Embodied Communication Across Time and Space*, edited by Bagga-Gupta, Hansen, and Feilberg (to be published by Springer, approx. Dec. 2016). This section contains the theoretical assumptions I

specify in the paper, which informed my empirical analysis. Thus, it contributes to the issues taken up by the REID workshop and the issues discussed in the book.

As a point of departure, I build on Mary Buckholz and Kira Hall's article (2005), "Identity and interaction: A sociocultural linguistic approach," which is the most cited article of all time in the journal *Discourse Studies*. I align with this approach, placing my work in the middle of contemporary interactional approaches to identity. In the article, Buckholz and Hall synthesize and summarize the theoretical assumption under the umbrella term and framework "a sociocultural linguistic approach." This term is chosen to encompass a broad range of theories and methods for the study of language in its sociocultural context, in order to create a framework for the study of identity. The framework is largely compatible with and overlaps with the perspective of embodied interaction, which was described earlier in this chapter. The term is a response to the sometimes narrow use of the term "sociolinguistics," meaning that it mainly involves quantitative analysis of various linguistic features and their correlation to sociological variables. The framework draws, for instance, on an ethnography of communication (e.g., Dell Hymes, 1964), which argues for a more socially integrated linguistics. Their article summarizes five basic principles for an analysis of identity, and these principles fit well with the question I ask in my paper. These are: a) the emergence principle; b) the positionality principle; c) the indexicality principle; d) the relationality principle; and e) the partialness principle. (The first paper, included in Chapter 9, further elaborates on the implication of these principles for my analysis.)

Further, I build on a number of other basic assumptions and suggestions from both their work and a variety of other influences. In particular, I build on the notion/perspective that identity is situationally accomplished in moment-to-moment interactions with others and the world,

and thus a fundamental social and cultural phenomenon. Buckholz and Hall assert that identities are inevitable, but they shift as interaction unfolds across various discourse contexts. I found this to be a significant point in the investigation of the “friendship teaching plan.” Arguing for the importance of interactive spaces for identity development, I took inspiration from and align with similar arguments from a variety of disciplines and fields of study, such as feminist geography, Deaf geographies, and linguistic anthropology, as well as more recent studies in linguistic pragmatics, discourse studies, and sequential analysis.

In particular, I found inspiration in Valentine (2007), who researched and wrote a case study based on the narrative of a deaf middle-aged woman, and “the ways gender, sexuality, class, motherhood, disability, and the cultural/linguistic identity ‘Deaf’ become salient/disappear, are claimed/rejected, and are made relevant/irrelevant.” Valentine seeks to advance the theorization of the intersectionality of peoples’ multiple identities, actualizing what the REID workshop and book called for. But she also draws on actor-network theory’s (Latour, 2005) notion that “things” do not have fixed or stable properties, but properties that emerge in practice. This implies that “the identity of particular spaces [...] are in turn *produced and stabilized* through the repetition of the intersectional identities of the dominant groups that occupy them” (Valentine, 2007, p. 19, italics added). On this basis, I argue that researchers must investigate the way in which stabilization is actually accomplished. Consequently, drawing on classic concepts from works on interaction and embodied interaction analysis, as well as studies of deaf peoples’ sociolinguistic practices, I entertain the simple idea that the participants, through recurrent embodied interactional organization and joint coordination of talk, contributed to the stabilization of certain spaces as recognizable places. More specifically, I hold that for the participants to properly understand each other, it was fundamental that they take into account each other’s publicly displayed embodied signs of

where and *what* they were attending to (Goffman, 1964). They did this by interactively co-organizing their action into embodied participation frameworks (Goodwin & Goodwin, 2004); that is, relatively stabilized, temporally extended, interactional structures, wherein participants could recognize, interpret, and predict what was going on. Thus, through the recurrent ways in which the deaf people oriented visually (Bagga-Gupta, 2004b) towards each other and their environments in their communication, certain places were turned into stabilized, “visually-oriented spaces” or “Deaf Spaces” (Gulliver, 2015; Solvang & Hualand, 2013).

Developing these theoretical assumptions, in the empirical investigations I build on work by Keating and Mirus (2003b), who found that unshared sociolinguistic practices and different primary modality orientations between deaf and hearing students are responsible for communication failure. In other words, these differences can destabilize participation, and thus potentially influence “who” participants are “allowed” to be in a particular setting. On this basis, I argue that there is a relation between the well-known and uncomplicated participation frameworks and the feeling of being “at home with” or belonging to a particular place. The empirical investigation of the deaf students’ negotiation of identity—wherein they exploited the video-mediated environment to interactionally work out a participation framework that could bridge the gap between deaf and hearing students in mainstreamed settings—is, in itself, a contribution to theoretical discussions on how identity and intersectionality can be understood and studied.

4.5. Professional practice: Second question

The second included paper deals with the question of how teachers orchestrated student attention in the visual, multiparty, mediated environment. In this paper, I shift focus to the teaching of signed language to (deaf) students as a professional practice, and how the professional teachers met with and developed their practices in this new teaching context. Thus, it relates to the development of their specialized skills and knowledge for teaching deaf students, as treated in section 3.3.1. There, I explained that one of Statped's reasons for initiating this pilot project and setting up this distance education program was—in addition to their desire to allow signed language learning students to connect with and learn in the company of other signers—to provide these students with access to skilled signing teachers. The ability to teach signing is not a common expertise among general teachers. This also relates to the distance problem (section 3.3.2), as the scarcely populated and geographically stretched country of Norway implies that such expertise is not easily accessed by many local municipality schools; nor is it an easily developed expertise for local teachers, who are usually responsible for teaching only one signed language learning student over a certain period of time and are not surrounded by other colleagues who are occupied with a similar professional practice. Focusing on the teaching of signed language as a professional practice consequently implied that such teaching requires expertise beyond knowledge of how to sign.

As indicated in section 3.1, I was interested in the many aspects of teaching signed language and the expertise involved in this from a very early stage. Therefore, I incorporated in the research design observation of the distance education teachers in their weekly meeting, to get a sense of their concerns and issues with teaching in this VME. Whereas I had previous experience in applied linguistics and the teaching of deaf students, and had most recently been employed by Statped with responsibilities for the sign language training program for parents,

I by no means came to the situation as an outside expert. Furthermore, I had no intention of positioning myself as a post-hoc applied linguist (a mediator), a consultant (a problem solver), or a proactive practitioner (an educator) (see Sarangi, 2005); rather, I saw myself as a joint collaborator and co-researcher (closer to what Sarangi (2005) calls being in a consultative, reflexive mode). My role in the pilot project was to observe and stand alongside the teachers in their evolving practices of teaching in a new setting. Knowing that limited research has been done on deaf education practices, I shared the point of view of some early researchers (e.g., Erting, 1988) that the practices of skilled and/or deaf teachers represent an untapped resource when it comes to building the professional practice field of teaching in visually-oriented ways, as well as teaching in and about signed language. My participation in the deaf education field can be described as “thick participation” (a notion introduced by Sarangi to parallel Geertz’s (1973) thick descriptions), characterized by lengthy immersion; that is, a continuity of involvement in the research setting, a saturation of experience, and a maintenance of relationships with practitioners. This kind of applied linguistic research into professional practice, which Sarangi calls for, should also communicate research findings back to practitioners. From my perspective as a PhD candidate, however, I want to clarify that this communication back to practitioners will not primarily take place through this thesis or the included papers. As an apprentice researcher, my thesis (as well as the included papers) were written to improve my arguments and contribute to discourses about specific issues in certain academic fields. The communication with practitioners will be done in other arenas (as I think that neither PhD theses nor papers written in English are widely read by teachers in deaf education in Norway).

Some of the teachers had many years of experience teaching students one-on-one through another kind of technology, called “video telephony.” It should be pointed out that many of

these teachers reported that they found teaching in such an environment exhausting, as there was only one student at the other end. They reported it to be demanding, given that it required quite a bit of work on their behalf to engage the student throughout the whole lesson. They claimed it was sometimes hard to keep the conversation going without the presence of more students, whom the student could interact with. In addition, in the video telephony setting, the teacher's end was not set up with the ability to change the camera view to display a whiteboard, and there were limited possibilities for mutually watching online video content. Thus, video telephony provided fewer resources than the new studio setting. Similar observations have also been made by researchers on videoconferencing, who underscore that, when it comes video-based distance education, "interactivity is king" (Greenberg, 2009, p. 23).

The discussions in the teachers' weekly meetings revealed that the teachers were very aware that the new possibilities afforded to them by this multiparty technological configuration also had some constraints. One of the main concerns was that this setting did not render gaze direction in the way that ordinary teaching did. Further, they pointed out that this setup required the students to continuously shift where, on the screen, they had to look in order to follow along. However, the teachers also reported that: a) the students seemed to be more focused in this setting than the teachers had experienced them to be in normal classroom settings; local teachers at the municipality schools confirmed this impression; and b) the teachers experienced difficulty following exactly where the students were looking on their screens; that is, what or who they were actually paying attention to. The discussions among the teachers demonstrated that they were fully aware that something was different between the old and the new (multiparty) setting, and it related to the students' abilities to pay attention and take turns.

With these issues having been pointed out by the teachers, when looking through the data and logging the lessons, I took notes of things I discovered that were noticeable and seemingly related to the teachers' issues. At first there seemed to be a series of unconnected phenomena, but after a while it was possible to see that instances of behavior by students and teachers across groups and lessons contributed to providing a unified space in which the students could sustain their attention. Thus, the questions that could be answered and framed by the different findings began to take shape. The metaphor of orchestration seemed to capture this central overarching task that the teachers were dealing with. This metaphor is not a new one, and it has been indicated by several researchers before me (see, e.g., Philips, 1972; Erickson, 1979; (Majorie) Goodwin, 1999; Kääntä, 2010).

4.5.1. Academic discourses on professional practice

The “applied linguistics of professional practice” (Sarangi, 2005) approach has had a strong influence on the applied linguistic section in my department at NTNU, with a focus on problem-based research conducted in close collaboration with practitioners (Professor Srikant Sarangi was, for a period, Professor II at the department). The annual Applied Linguistics and Professional Practice (ALAPP) conference has become the main international meeting place for this strand of research. Seeking contributions on topics linking professional practice with language and communication issues, the conference aims to bring together scholars from different disciplinary backgrounds, especially language and communication research, and various professional specialties (e.g. mediation, management, business, law, journalism, education, healthcare, social care, therapy, translation and interpreting). The conference theme of the 4th ALAPP conference was “Learning through and for professional practice,”

and had a special emphasis on cross-boundary collaborations. The topics presented by the invited keynote speakers can illustrate some of the pertinent issues in academic discourses on professional practice: Sanne Akkerman pointed out what she sees as the main methodological challenges in understanding professional practice, and the crossing of boundaries (between institutional, interpersonal and intrapersonal levels) in professional practice. Elizabeth Keating presented her study on engineers collaboration and language use in technology-mediated and cross-cultural work across four continents—pointing out that as people design their actions to be interpreted by others, new audiences and technologies play a key role in shaping behavior. Marra Meredith addressed that job mobility is now an endemic feature of working lives, and that crossing boundaries (into new jobs, industries, communities, and countries) entails a complex mix of interactional challenges and opportunities—of which discourse analysts potentially can offer practical advice. Lorenza Mondada presented her investigations of when it is relevant to ask questions in the operating room, which tells us about the constrained opportunities for learning during surgical procedures. Srikant Sarangi addressed the issue of “situated communication ethics” and the epistemology of professional practice. He argues for the need to pay attention to; discourse types, participation structure, and role-sets—while acknowledging unintended consequences. Elizabeth Stokoe presented her application of conversation analysis and the development of CARM (Conversation Analytic Role-play Method). CARM can be adapted to any sort of workplace or institutional encounter to impact professional development across organizations. Among the suggested topics called for in the conference announcement, there were two subject areas, in particular, for which my findings could be of particular interest: “Skills and competence development through language and communication” and “Linguistic and semiotic aspects of professional expertise.”

4.5.2. An empirical contribution to academic discourses on professional practice

After the conference, PhD students were encouraged to submit their papers to *Journal of Applied Linguistics and Professional Practice*. The second included paper in this thesis was submitted to this journal. This presentation of the way in which the paper was developed provides a context for reading its contributions. This section contains the theoretical assumptions specified in the paper.

In the second paper, the theoretical framework that is applied to the empirical analyses is aligned with assumptions in the embodied interaction in the material world approach (Streeck et al., 2011). Thus, the focus is on the intrinsically embodied nature of the coordinated organization of the collaborative activities of the teachers and students, and their embeddedness in the video-mediated (however, still material) and bodily environments. I align with an action perspective that brings together the detailed ways in which the social, cultural, and sequential structures of this environment, where action takes place, is interactionally organized (Goodwin, 2000, 2013). Thus, it is coherent with a dialogical perspective (Linell, 2009) that conceptualizes the teacher's and students' dialogical organization of signed language within the mediated "face-to-face" interaction as "linguaging." It sees this organization as constituted through an "emerging, multiparty process," as the teacher and students "assemble actions and units by operating on a range of semiotic materials that each is producing with an orientation toward the other" (Goodwin, 2013, p. 8). The perspective sees the multimodal, semiotic resources (including the mediated video images, cf. Keating, 2006) as something the participants exploit in order to display to each other—through both conventional forms as well as improvised and occasioned means—the intelligibility of their actions, and to coordinate these actions with the actions of others (Mondada, 2013).

Further, the notion of “visual orientation” (Bagga-Gupta, 1999, 2004b) is used to foreground the particular communicative practices, and, by conceptualizing the recurrent practices as “habits” or “techniques of the body” (Mauss, 1973 [1935]), I highlight the signing, gestures, and bodily actions as cultural products.

In the empirical analyses, I rely heavily on the classical work of microethnographers (and significant contributors), such as Kendon’s (1990) work on interactional behavior in focused encounters (i.e., context analysis) and Goffman’s (1963) work on the social organization of gatherings (i.e., interactional order). In addition to works on the (interactional) gestural manufacturing of meaning (Streeck, 2009), these works point to the critical role played by eye contact as well as bodily posture in creating “ecological huddles,” wherein mutual monitoring possibilities can be initiated and sustained. I also draw on ethnomethodological conversational analytic work to point to the special role of teachers in classroom interactions (e.g., Macbeth, 2003): how by coordinating eye contact the teaching institution is “looked into being” (cf. Heritage, 1984, p. 290; see also Nevile, 2015), and how it is necessary to pay attention in order to learn (Sahlström, 2012).

Building on these theoretical assumptions, the empirical investigations show how professional practice is constituted in discourse. As Goodwin puts it:

Professional settings provide a perspicuous site for the investigation of how objects of knowledge, controlled by and relevant to the defining work of a specific community, are socially constructed from within the setting that make up the lifeworld of that community—that is, endogenously, through systematic discursive procedures. (1994, p. 630)

The empirical investigations also amount to three specific theoretical contributions to teachers' professional practice: a) teachers' orchestration of student attention constitutes a critical skill in their professional practice when adapting to new teaching environments; b) it is not enough for teachers to see and be seen, but rather it is knowing what the others see that is crucial; and c) teachers orient to a much more complex range of multimodal cues than those provided by "talk," alone. In addition, this paper provides empirical support for communication theory and researchers claiming that judgments of meaning in utterances should not be based on what the producer does (or says), but on what resources are available for the interpreter to recognize the information the producer reveals (cf. Enfield, 2011, pp. 64–65).

4.6. Orders of mediated interaction: Third question

The third included paper deals with the way in which addressing practices were employed to organize built interactional space in the video-mediated environment. The discussions among the teachers touched upon the fact that a method of only pointing towards students displayed on the screen would not make much sense to the students, as all of the students would see the same image of the teacher and would not know who was being pointed at. Early on, when looking through some of the newly recorded lessons, I noticed that the teachers did not use much pointing when interacting during the lessons. However, I came to notice that one teacher did much more pointing than the others, and that he sometimes made pointing-only actions. Before fully realizing what was going on in the recorded data I asked this teacher if he was aware that he did so, and I suggested his pointing actions could be ambiguous to the students. He insisted that his use of pointing was not ambiguous, but since we did not have the opportunity to look at the video recordings together, we did not enquire into the question

any further. This teacher was known to be very skilled, and I had myself already seen how skillful he was in engaging and captivating the students. Frankly, I had not noticed any indications of the students showing signs of confusion or missing out in the recorded interactions I had reviewed. Later, when all the video recordings had been collected and I returned to the data, I could easily see that this particular teacher used a great deal more pointing than the other teachers throughout all of the seven lessons I recorded with him. Investigating more, I soon discovered that the teacher must have been right, and that I had come across a curious practice that allowed for more extensive use of pointing, in spite of the seemingly restricted mediated environment. On a couple of occasions I had the opportunity to bring a video clip of this teacher's pointing practices to CA-style data sessions. Working with the data, I grew more confident that the example of this teacher could contribute to discussions of research on mediated interaction within the CA tradition. Thus, I submitted an abstract to a call for contributions to a panel, "Orders of interaction in mediated settings," within the International Conference on Conversation Analysis, ICCA14.

4.6.1. Academic discourses on orders of interaction in mediated settings

The ICCA conference take place every fourth year and is the main international conference for scholars that take a conversation analytic approach to their research. A group of researchers called for contributions to a panel within the conference. They had organized a similar panel at the previous conference, four years prior, and took the initiative of having a panel so as to offer space for discussion on mediated interaction as a strand of research within CA. Their point of departure was that mediated interaction is always "part and parcel" of the study of conversation (Arminen, Licoppe, & Spagnolli, 2013). This was further framed within the present situation, in which mediated communication is increasingly common. Nowadays,

interaction, encounters, and collaboration are supported by a wide range of information and communication technologies, which provide resources to “mediate” settings and organize action. The call for contributions specified that the organizers would like to invite CA contributions addressing the way in which interaction is organized in mediated settings. Two specifications were made for the invited contributions: First, the contributions were to account for interactional organization by adopting both an internal and a comparative perspective. The internal perspective meant that the structure of a certain mode of mediated interaction could be described in its own terms. Thus, contributions were advised to account for the sequential and interactional consequences of an observed practice on participants’ interaction in that environment. For the comparative perspective, the contributions were advised to avoid treating the mediated settings as secluded, independent loci of interaction. The structure of mediated interaction could be related to the already unveiled practices and organizational issues studied in other conversational settings. A multimodal approach was explicitly welcomed.

My contribution to the panel was formed as to make the data and the analysis available and relevant for a general audience interested in conversation analysis who might not have any prior knowledge of signed language interactions. Illustrating issues in academic discourses on orders of mediated interaction, the titles of other contributions to the panel included: Muting as a social action in ICT mediated business meetings (Mie Femø Nielsen); Multimodal referential practices for a museum guide robot. Establishing co-orientation to an exhibit(Karola Pitsch); Summoning and answering in multi-party videoconference meetings. A study on the interaction among online students of Spanish(Arantxa Santos Munoz); Long-Distance Repairs in Chinantec Whistled Conversations (Mark A. Sicoli); Orders of Interaction in Undergraduate Blog Conversations: IRE meets CMC (Trena Paulus, Jessica

Lester, Darren Reed, Wyke Stommel, David Giles); Increments in Instant Messaging: Retrospective and Prospective Constructions (Anna Spagnolli, Luciano Gamberini, Mattia Mori, Sonia Genovese); and, “Being there” and presence’s verification sequence in distant premeetings (Clair-Antoine Veyrier).

4.6.2. An empirical contribution to discourses on interactional order in mediated settings

After the conference, the panel organizers sent out a call for papers for a themed issue of the journal *Research on Language and Social Interaction*; the panel presenters were invited to make a submission. The call for papers was very similar to the call for contributions to the panel. The expressed point of departure for the themed issue made the basic assumption that systematic analysis of interaction in a mediated setting, as well as the comparison of different mediated and natural settings “under the auspices and with the resources of CA” (Schegloff, 2009, p. 377), will broaden our understanding of new activity formats and contribute to CA and related approaches. The guest editors (panel organizers) made it clear that they were looking for a collection of data-driven papers producing genuine advancement in the study of interaction, and would select papers on the basis of relevance, originality, and cogency relating to the following topics:

- the intertwining of mediated and natural interaction;
- known conversational phenomena/practices (the turn-taking system, repairs, overlaps, adjacency pairs, expansions, etc.) in new environments;
- new interactional phenomena in mediated environments;
- interactional practices and medium affordances;

- the process through which new practices emerge and are established in new media (including prototypes); and
- the interplay between verbal and non-verbal resources in mediated multimodal interaction.

Molded through the whole process, including the review process of the submission to the journal, the final version of the research question that framed my analysis and findings was: How are addressing practices employed to organize built interactional space in this video-mediated environment?

As this paper was written in the context of—and as a contribution to—CA, the insights and basic assumptions of CA constitute the theoretical foundations of the paper. However, as I point out in the paper, I put more weight on specific aspects within this strand, as I apply a framework of embodied interaction analysis (Streeck et al., 2011). The CA tradition relies on machine recordings of naturally occurring interactional data, and this data is approached with as few preconceptions as possible, with researchers remaining open to all the details in the data that can be of significance to the ways in which participants interact. However, in order to refine the analysis, researchers must make a clear exposition of the participants' interactional challenges in the particular environment. In the paper, I build on a review of studies on eye contact and video-mediated communication (Bohannon et al., 2013), as well as on previous CA findings that the fractured environments of mediated settings can lead to fractured conduct (Luff et al., 2003)—for instance, it was not possible for the students to know who the teacher was referring to based on the teacher's eye gaze or pointing, only. In framing the studied challenge, I point to the fact that, in instructional settings, teachers use various resources to select the next speaker (Kääntä, 2010). I further suggest that teachers face

additional challenges in video-mediated environments in which microphones are muted. Finally, teachers are in a privileged position, in controlling turn-taking and selecting the next speaker (Gardner, 2013), and classroom interaction often resembles a two-party conversation (Lerner, 1993) wherein the teacher is one party and the students are the other. On the basis of studies of co-present spoken interactions with few participants, one can conclude that it is sufficient to use only pointing and/or gaze to address or allocate turns (Hayashi, 2013); it would be easy to assume that it is the same for signed interactions. Examinations of my data show that addressing and next speaker selection was accomplished using a “name-sign”—i.e., an “address term” (Sacks et al., 1974) (see also findings in the second paper). However, one teacher initiated a different procedure for addressing and selecting the next speaker.

Through the data-driven analysis it is shown that the signing teacher and students built composite utterances (Enfield, 2013) that employed and juxtaposed various resources simultaneously (cf. Vermeerbergen et al., 2007) for coordinated action and recruited the signing space (cf. deVos, 2012) to inscribe meaning. The finding and explication of the referential mapping practice initiated by one teacher, who used pointing in a new way to establish reliable addressing practices and next speaker selection, is shown to become a solution to the “deictic” complexities of non-shared spaces. Thus, this paper contributes to our understanding of the ways in which participants tie situated actions to structures in the environment (Goodwin, 2007; cf. Streeck et al., 2011). Further, the scrutiny of the details of the orders of interaction in signed video-mediated environments adds to our understanding of the specific challenges presented by the visual side of conduct when communicating over distance.

5. Discussions of previous research

The purpose of this chapter is to discuss and provide a comprehensive review of previous relevant research. When exploring an ethnographic site, as done in this study, the question of relevance can be drawn in many directions. In this thesis, I study a new environment (i.e., a multiparty video-mediated environment) within a—research-wise—small practitioner field (i.e., signed interaction within deaf education). But since the approach taken (i.e., embodied interaction in the material world) is far from mainstream in the subject area under research (i.e., deaf education), there were not many similar studies to build on. To make it clear at the beginning of this literature review: I did not come across any previous research that (microethnographically) investigated signed interaction in a video-mediated multiparty classroom environment, wherein technology was used to offer a distance education program within deaf education. However, I did come across various sources of information to suggest that forms of distance education exist within or in connection to deaf education. For instance, after presenting at a conference I was approached by a researcher from Wisconsin who claimed to have a spouse who worked within deaf education and used the exact same technology and setup to teach deaf students across a distance. In Sweden, the special needs education authorities (Specialpedagogiska skolmyndigheten, SPSM) initiated (in fall 2014) a distance education program very similar to the Norwegian program that was studied in this thesis. A couple of students have written a final term paper for their special needs teacher education (Steen & Strömberg, 2015). However, I did not manage to get hold of any research (peer-reviewed or similar) on distance education within deaf education. This implies that when I searched for relevant research, all of the research I found that was similar (or relevant) missed out on some important dimensions, relative to my study. One of the more closely related pieces of research I found was a 1994 master's thesis on applied linguistics from a researcher at my department, Patrick Coppock, who studied videophones and signed

communication. Data for his thesis was gathered from the school for the deaf in Trondheim—the “same” site I researched almost 20 years later. Further, in recognition that the most significant trait of my study is its focus on video-mediated interaction through signed language, and setting aside the educational dimension, the most relevant study to mine is the work of Elizabeth Keating and Gene Mirus (2003a; see also Keating, 2005, 2006, 2008; Keating, Mirus, & Edwards, 2008; Keating & Sunakawa, 2011). Keating and Mirus investigated some of the ways in which the Internet—through webcam- and computer-based communication—is shaping language practices in the Deaf community, with a particular interest in how the new tools mediate and influence human behavior, including language and the organization of interaction. Another highly relevant study is Elina Tapio’s (2013) doctoral work: “A nexus analysis of English in the everyday life of FinSL signers: A multimodal view of interaction.” Her thesis builds on work from, and contributes to, the applied linguistic field and tradition, similar to my thesis. Her study explores the everyday life of Finnish Sign Language users and their use of resources when learning and interacting using the English language—sometimes through online (video)-mediated interactions. The approach is only slightly different from the approach I take in this thesis, and to a great deal overlaps. Standing on an ethnographic research paradigm, she employs a mediated discourse analysis (MDA) approach with practical research procedures of nexus analysis. Drawing on data from both an educational setting as well as settings outside the school, her study shows that there are abundant resources for signers to employ when learning languages. However, these resources are not always recognized and actively used in formal education. Nexus analysis is used to navigate the relevant larger discourses of deaf education and English language learning for deaf students, and she expands on the local discourses observed in the data to consider more general and broader discourses on the issues in question. The study concludes that the actions taken by signers using resources from English are complex, multimodal, and deeply situated,

and offer affordances for successful participation. Thus, the complexity and multimodality of such actions challenge traditional views of language learning and teaching, as well as a *disabled* view of deaf people and their resources for language learning.

The study presented in my thesis touches upon a large number of related fields (or strands) of research. It is about education (an activity system) and about people—mostly deaf people (their actions and activities)—interacting using signed language, in environments where technology mediates their communication. Thus, I organized the wide range of relevant research into several subsections, below, following each of the basic categories suggested above (i.e., deaf education, signed language, and technology). I emphasize research on deaf education and put slightly more weight on the Norwegian context. I also present research that has some resemblance to the design of my study and the setup of the researched site.

5.1. Deaf Education

A substantial amount of research has dealt with how deaf students perform in schools and various preschool services, and it is fair to claim that this research paints a picture of deaf students struggling, both academically and socially. In Norway, recent research on deaf education has pointed to some challenges confronting deaf education. Ola Hendar (2012) published a broad study based on data from various sources about the academic outcome of deaf students in the Norwegian setting, and found that “hearing-impaired students as a group” have more difficulties reaching learning goals in school (Hendar, 2012, p. 76, my translation). Even though some deaf students do well, many deaf students’ outcomes are significantly lower than those of other students; further, we do not know much about *why* this is so (Simonsen et al., 2010). Against this background, The Norwegian Directorate for Education

and Training called for (and offered to finance the making of) a report of the current status of research-based knowledge on good practice in deaf education. The work resulted in the following publication from NTNU Social Research, which I was invited to take part in: Hjulstad, J., Haugen, G. M. D., Wik, S. E., Holkesvik, A. H., & Kermit, P. (2015). *Kunnskapsoversikt over forskningsfunn om læring hos barn og unge med hørselshemming [A field of knowledge review concerning research findings on learning among children and adolescents with hearing loss]*. Trondheim: NTNU Social Research.

The directorate wanted answers to the following questions (my translation):

- What does research show is good methodology for children with hearing loss, seen from the vantage point of processes within “The framework plan for the content and tasks of kindergartens” (2011) and competence aims in the national subject curricula (2013)?
- What conditions are needed for a good learning process to take place?

While these were not the exact questions I asked in my research, their relevance to my study should be apparent. Thus, working with the review turned out to be very useful to me and provided the opportunity for a more thorough examination of previous research.

The method we used to search are as follows: Various international and Norwegian databases (i.e., SCOPUS, Web of Science (ISI), Eric, NORART og Bibsys Ask) were searched (see also the report’s appendix for a detailed specification of search words), and entries (including title, keywords, and abstract) were directly imported into the referencing software EndNote. A series of steps to narrow the number of publications into a manageable size were made. We applied the following formal criteria of inclusion and exclusion:

- the searches only included research published within the last 15 years;
- only peer-reviewed research publications or publications of equivalent quality were included (and not, e.g., research done as part of master's theses);
- publications needed to at least mention learning practices or ways of organizing teaching, where it is apparent that some are preferable to others; and
- publications needed to be about hearing loss and concern institutions connected with kindergartens or schools (with the exception of medical rehabilitation, which were not included).

From over 7,000 studies identified and included in our database, we narrowed the number down to 1,770, at which point we began to run searches for certain keywords in the titles and abstracts; this further narrowed the sample to 521 studies, of which all abstracts were read. From this reading, we ended up with 28 studies that we considered relevant for the questions asked and the inclusion criteria. In addition, another 57 studies were deemed partly relevant. Based on our findings, a discussion of the findings was provided and our conclusion contained the following points:

- The number of studies dealing with suggested practices and teaching methods for educating deaf students was low, thus we could only answer our research question to a limited degree.
- It is striking how few classroom studies and evaluations of practice we were able to identify. This was also commented on by, for instance, Kelman and Branco (2009). Further, only three studies (Kristoffersen & Simonsen, 2014; Pakulski & Kaderavek,

2012; Vesel & Robillard, 2013) were specific about the school subject investigated (however, see also Tapio, 2013).

- There seemed to be many studies of students with severe hearing loss and fewer studies of students with moderate or mild hearing loss. This does not mean that there is too much research on deaf student with severe hearing loss, but it might indicate that there is little focus on the barriers faced by the latter group of students in their education. Furthermore, many studies focused on the question of language and language choice for deaf children, but very few studies actually dealt with didactic questions.
- There seems to have been little internal communication between publications, and it is unclear whether the researchers actually built on each other's work.
- A wide range of methodology was used and the quality of the publications varied. The works ranged from large surveys (Hadjikakou, Petridou, & Stylianou, 2008) to case studies of only one child (Iantaffi, Jarvis, & Sinka, 2003). Some publications provided rather specific suggestions, while others provided outlines or generalized principles.
- Finally, many of the included works (both Norwegian and international) pointed out—similar to, for instance, Hendar (2012)—deaf students' lower outcomes and greater struggle in school, relative to peers.

The review suggested that practitioners (i.e., teachers) operating within classrooms with deaf students could not, given the current dearth of research on deaf education, expect to find many research-based answers to the question of what practices (methodological/didactical) eventually lead to the successful education of deaf students. Thus, in addition to pointing out that more research is needed, an important implication derived from this review was that novice practitioners within situated engagements with deaf students in educational settings are

reliant on having relevant knowledge passed on from practitioners who have built their experience and practice of educating deaf students from everyday life and activities in schools and preschools.

5.2. Norwegian review studies

In Norway, prior to the review I collaborated on, a few relevant review studies were conducted. In 2011, Kirkehei, Myrhaug, Garm, Simonsen, and Wie published the report “Kommunikasjonsformer for barn med cochleaimplantat [Communication modes for children with cochlear implants],” on behalf of the Norwegian Knowledge Centre for the Health Services (Kirkehei et al., 2011). The background for this study relates to the “the age-old communication battle (i.e., on the relative virtues of spoken language, signed forms of English, and ASL)” (Easterbrooks & Stephenson, 2006, p. 395). The question asked in the review was: What does recent research show is the best educational approach for children fitted with cochlear implants? The objective of the review was to summarize recent studies that evaluated the effect of a simultaneous bilingual education using spoken and sign language (in line with the Education Act, §2.6), spoken language with sign support, or spoken language alone (as recommended by Rikshospitalet, the national hospital) (Siem et al., 2008). The inclusion criteria in the report conformed with clinical research practice (e.g., randomized controlled trials, controlled before and after studies, cohort studies, and cross-sectional studies with control groups), which means that no qualitative studies were included. Four cohort studies that evaluated the effect of the communication modes were investigated, but none of them answered the research question. Thus, the report found no foundation in research to draw any conclusions about the effectiveness of the communication modes.

In 2010, Simonsen, Hjulstad, Høie, and Johannesen published a review called “Hørselshemmede og opplæring – kunnskapsutvikling og kunnskapsbehov i Norge [Hearing loss and education – The development of, and need for, research-based knowledge in Norway]” (Simonsen et al., 2010, my translation of title). The report aimed to contribute to the development of knowledge to improve the educational conditions for children with hearing impairments. Out of the 198 collected pieces of Norwegian research work (including master’s theses), the authors selected and presented 16 works on the education of hearing-impaired students. Their conclusion calls for more research on classroom practices.

5.3. Non-Norwegian review studies

Webster (2000) reviewed literacy intervention strategies (which are relevant to the present study because learning how to use technology can be seen as a certain kind of literacy) and concluded that it is not a given that deaf children can make use of established interventions that have been developed for hearing children. This points to the literacy problems of deaf children as problems that have been co-created in interaction between the children and their surroundings. Further, the struggles of parents and teachers to find adequate teaching methods can also add to the challenges deaf children meet in developing full literacy. This calls for multidimensional approaches to account for students’ learning styles, hearing impairment, and preferred forms of communication.

Cannon and Guardino (2012) studied English language teaching to deaf students who did not grow up in an English speaking environment, and identified principles, methods, and practices they found to be effective and backed up by research claims. On the basis of these

findings, they noted four recommendations for practitioners. Their main conclusion was that there is still a great need for further research.

Easterbrooks and Stephenson (2006) examined 20 literacy, science, and mathematics practices used to educate students who were deaf or hard-of-hearing. They identified ten practices for each of the categories “literacy” and “science and mathematics” that had some claims for being effective. However, they stated the evidence is weak for many of these practices:

Compared to the thousands of data-based articles available on the age-old communication battle (i.e., on the relative virtues of spoken language, signed forms of English, and ASL), the research on teaching and learning of academic subjects such as reading, writing, mathematics, science, and social studies is negligible. (Easterbrooks & Stephenson, 2006, p. 395)

This is also pointed out in the book chapter “Shifting contexts and practices in signed bilingual education in Northern Europe. Implications for professional development and training,” co-written by Swanwick, Hendar, Dammeyer, Kristoffersen, Salter, and Simonsen and printed in *Bilingualism and Bilingual Deaf Education* (Marschark, Tang, & Knoors, 2014). The point of departure is the change in sign-bilingual education in Norway, Denmark, and England. Whereas the authors base their view on theory and research that bilingual development is a promising and well-founded path to pursue in educating deaf students, they call for changes in the thinking and practice of deaf education away from an ideologized stance and towards a more explicit focus on what actually goes on in deaf education classrooms. However, they point out that there is too little research on what actually goes on in bilingual classrooms, and promote a framework for seeing how the various languages and modalities (i.e., written, signed, and spoken) form the totality of a bilingual classroom. The

authors argue for practice-based research and the development of genuine and productive research–practice partnerships (p. 304).

A few review studies have also addressed the issues of inclusion and social interaction among deaf students and their hearing peers. Batten, Oakes, and Alexander wrote the article “Factors associated with social interactions between deaf children and their hearing peers: A systematic literature review” (2013). They found a range of factors associated with social interaction between deaf and hearing students. While the results showed a complex picture with a lack of consensus across studies, the role of communication gained the highest consensus.

Another review study by Xie, Potměšil, and Peters (2014), “Children who are deaf or hard-of-hearing in inclusive educational settings: A literature review on interactions with peers,” highlights the challenges and difficulties faced by deaf students in communicating, initiating/entering, and maintaining interactions with hearing peers. On this basis, the authors call for further research concerning interventions to promote social interactions in inclusive education, and argue that the social and affective outcomes for deaf students in inclusive education need urgent attention. This implies that professionals must strive to work together to support all learners in inclusive education and provide students with the means to collaborate in learning activities.

Considering which publication channels were the most represented in our review study, two scientific journals stood out among the others: the *American Annals of the Deaf* (which contributed 236 out of the 1,770 entries in the review) and the *Journal of Deaf Studies and Deaf Education* (which contributed 224 out of the 1,770 entries). When reviewing research on

deaf education, it is relevant to mention the editor of the latter journal, Mark Marschark. Marschark is a very productive researcher who has initiated a range of studies and projects within deaf education. Marschark and colleagues have published several extensive and comprehensive overviews (e.g., Spencer & Marschark, 2010; Marschark & Hauser, 2012; Marschark, Tang, & Knoors, 2014; Knoors & Marschark, 2014, which has also been translated and adapted into Danish in Knoors, Marschark, & Dammeyer, 2015). His books contain broad overviews of research and research-based knowledge within deaf education, discussing, for instance, psychological and developmental aspects in connection to deaf children's learning. Marschark's works and approaches are unwaveringly located within the educational psychology tradition, which, it is fair to say, has a dominating position in deaf education (as also indicated in sections 4.1 and 4.3.1) and represents a different approach than the one taken in this thesis. Marschark and colleagues have made a considerable contribution to our understanding of the learning conditions of deaf students, and they have paid substantial attention to the professional field of teaching deaf students. However, it is also significant to recognize that there are considerable and incommensurable differences in the way in which learning is conceived, as well in the epistemological foundations, between the two approaches. Their research typically leaves practitioners and others interested in prototypical and specific teaching practices and methodology with few applicable descriptions of such practices.

5.4. Norwegian research on deaf education

When the new curricula for deaf students were implemented in 1997, a group of researchers (Arnesen, Enerstvedt, Engen, Engen, Høie, & Vonen, 2002) initiated a large assessment survey to get an overview of deaf students' reading and writing skills, combined with a

number of other contextual variables. They weren't able to find any significant variables that could predict literacy skills, but when they singled out the high level readers/writers, many of these students had also reported frequent contact with someone (a teacher, a relative, etc.) with high proficiency in signing. As these results were drawn from a small population, the researchers were hesitant to draw any resolute conclusion that there was, in fact, a connection there.

After the new national curricula were implemented in 1997, including curricula particularly designed for deaf students in certain school subjects, specific research programs were set up to evaluate the "Reform 97." In the research project "På vei mot en ny grunnskoleopplæring for døve elever [Towards a new elementary education for deaf students]" (Ohna, Hjulstad, Vonen, Grønnlie, Hjelmervik, Høie & Nevøy, 2003), the mandate was to evaluate the implementation of curricula for deaf students, and also to evaluate the elementary education for deaf students in a wider (i.e., international) perspective. Their study took a sociocultural approach and aimed to describe various ways of organizing the education of deaf students, with a focus on the connection between language/communication, interaction, and contextual relations (Ohna et al., 2003). The research group specifically built on a qualitative classroom research approach defined through "research on practices wherein one aim to highlight the individuals and the processes within the institutional, historical unit which the classroom represents" (p. 50). For a similar approach to studying the classroom practices of deaf college students, see the doctoral thesis of Hansen (2005). These approaches have significant similarities with the microethnographic approach applied in my study, which was described in the previous chapter. The study by Ohna and colleagues (2003) pointed out certain factors that should be attended to when teaching deaf students. They highlighted the notion of "communicative space of the classroom," wherein language use and interaction is both

enabled and constrained. In addition, the researchers were concerned with various aspects of inclusion and inclusive education. Their study applied both quantitative and qualitative methods to explore a wide range of aspects. Their analysis concludes that deaf students are particularly vulnerable to processes of exclusion from the classroom community, usually through less access to the communicative space of the classroom. The results contribute to a better understanding of how language use and classroom interaction can contribute to such exclusion practices. In more general terms, the analysis highlights how the frameworks for (participation through) language use create possibilities and constraints for student communication and learning (Ohna et al., 2003, p. 270; cf. Ohna, 2005; Hansen, 2005).

5.5. Norwegian doctoral works

Research is what researchers do. To be qualified as researcher according to present standards, a doctoral (PhD) degree must be obtained and, with it, a research project. Not many people have completed PhD research in Norway within areas that are relevant to this study. Because Norway is a fairly sparsely populated country, it is quite easy to map the research conducted at a peer-reviewed level (i.e., at the PhD level or “beyond”) concerning deaf people. Thus, it is a fairly small task to provide an overview of the persons and institutions connected to this research. A lot of knowledge can also be drawn from the large number of master’s theses that have been completed; however, I cannot mention them all here.

Only three doctoral theses have been submitted on Norwegian Sign Language in the field of linguistics. The first was Marit Vogt-Svendsen’s (1990) “Interrogative strukturer i norsk tegnspråk: en analyse av nonmanuelle komponenter i 86 spørsmål [Interrogative structures in Norwegian Sign Language: An analysis of non-manual components in 86 questions].” Among

the other things she investigated were mouth gestures and mouthings, as well as the phenomenon of “buoys” in Norwegian Sign Language (e.g., 2001, 2007). At the University of Oslo she was joined by another linguist, Arnfinn M. Vonen, who was employed as a professor in special needs education and had published several papers within the fields of linguistics and deaf education. It wasn't until 2006 that Kari-Anne Selvik submitted her doctoral thesis, “Spatial paths representing time. A cognitive analysis of temporal expressions in Norwegian Sign Language.” In 2012, Rolf Piene Halvorsen finished his study “Tre diskursmarkører i norsk tegnspråk: en studie av blunk, blikkendring og nikk i åtte fortellinger [Three discourse markers in Norwegian Sign Language: A study of blinking, change in gaze direction, and nodding in eight stories]” (my translation of title). Both theses were submitted to the Department of Linguistics and Scandinavian Studies at the University of Oslo.

At the university in Trondheim, Per Frostad (1998) defended his doctoral study in education with the thesis: “Matematikkprestasjoner og matematikkinnsikt hos hørselshemmede grunnskoleelever [Mathematic achievements and mathematical insights in hearing-impaired elementary school students].” A number of forerunners (before me) in the section of applied linguistics at the Norwegian University of Science and Technology (NTNU) deserve mention here. Patrick Coppock (1994), in his master's thesis in applied linguistics, did a very early study of “Videophones and sign language: An investigation of signed communication through videophones.” It should be added that a number of master's theses containing smaller studies of either deaf persons or sign language have been conducted. However, the first doctoral work was done by Aase Lyngvær Hansen (who was also my co-supervisor). In 2005, she submitted the thesis “Kommunikative praksiser i visuelt orienterte klasserom: en studie av et tilrettelagt opplegg for døve lærerstudenter [Communicative practices in visually-oriented classrooms: A study of an adapted program for deaf teacher candidates].” One year later, in 2006, Eli Raanes

presented his thesis, “Å gripe inntrykk og uttrykk: Interaksjon og meningsdanning i døvblindes samtaler [To grasp impressions and expressions: Interaction and meaning-making in conversations among deaf-blind people]” (my translation).

Raanes played an important role in building the interpreter education program at Sør-Trøndelag University College in Trondheim. In 2010, Patrick Kermit—at the time also employed at the interpreter education program—submitted his thesis to the Department of Philosophy and Religious Studies at NTNU: “Etikk etter cochleaimplantering av døve barn: En undersøkelse med fokus på anerkjennelse, identitet og språk [Ethics after cochlear implants in deaf children: An exploration with a focus on acknowledgement, identity, and language]” (my translation). Kermit is currently Professor in Disability Studies at the Department of Social Work and Health Science at NTNU. This is also where Sigrid Slettebakk Berge, who is employed at the interpreter education program, recently handed in her PhD thesis (2016): “Tolkemediert undervisning for tegnspråklige elever i videregående skole. En analyse av undervisningstolkers rollesett [Interpreter-mediated teaching for signing students in upper-secondary school. An analysis of educational interpreters’ role-set].” Another thesis was also recently submitted to the same department, and relevant for deaf education. Ann Mette Rekkedal’s thesis (2015) was about “Erfaringer elever med hørselstap og deres lærere har med lyttehjelpemidler – En studie om hjelpemidlenes betydning for elevenes skolegang [Students with hearing loss and their teachers’ experiences with assistive listening devices – A study of the importance of assistive technologies for students’ education].” In 2007, the first professor in Norwegian Sign Language, Sonja Erlenkamp, was employed at the interpreter education program at Sør-Trøndelag University College in Trondheim. She had done her doctoral work on German Sign Language. Later, the university college merged with the Norwegian University of Science and Technology, and recently a

new professor was employed, Anna-Lena Nilsson. Anna-Lena Nilsson previously worked at Stockholm University. Recently, another scholar in linguistics, Lindsay Ferrara, was also “imported.” Ferrara is originally from the USA, but did her doctoral work on Auslan (Australian Sign Language). In summary, the interpreter education program (and NTNU) has fostered and become a strong environment for research on sign languages, deaf people, and deaf education. I would also like to add that, in 2011, a special issue of the journal *Norsk Lingvistisk Tidsskrift* (Vol 29, Nr 1) was dedicated to (eight) articles about Norwegian Sign Language. However, all in all, there has been fairly little research on NSL, with not many publications at a peer-review level.

I return now to the Department of Special Needs Education (ISP) at the University of Oslo, which has produced several doctoral theses relevant for deaf education. In 2000, Eva Simonsen defended her thesis: “Vitenskap og profesjonskamp: Opplæring av døve og åndssvake i Norge 1881–1963 [Science and professional struggle: Education of the deaf and of the mentally retarded in Norway 1881–1963].” And in 2001, Stein Erik Ohna defended his thesis “Å skape et selv: Døves fortellinger om interaksjoner med hørende [Creating a self: Deaf persons’ narratives concerning interactions with others]. Together, Vonen, Hansen, Simonsen, and Ohna—in addition to a number of other people—cooperated with/within the Statped network of resource centers and produced quite a few publications about deaf education, including in the “Skådalen publication series.” This group, within Statped, previously ran the NEFHO network (the National Network on Issues Concerning Hearing and Education), which supported PhD candidates and fostered research within deaf education. Simonsen worked at the Skådalen resource center (in the Statped network), which also had a small research department, and in 2013 one of the Statped employees, Ann Elise Kristoffersen, presented her thesis at ISP: “Litterasitetspraksiser i barnehager med

hørselshemmede og hørende barn [Literacy practices in kindergartens with hearing-impaired and hearing children].” Also recently submitted to ISP was the work of Lill-Johanne Eilertsen (2016), who is currently employed at Signo—an independent freehold diaconal foundation within the Church of Norway that offers nation-wide services to 700 deaf and 190 deaf-blind persons. Her thesis is about “Deltakelse i barnefellesskap mellom barn med og uten sammensatte vansker, der hørselsnedsettelse inngår [Participation in communities among children with and without complex needs, and where hearing impairment is involved].”

Stein-Erik Ohna is currently a professor at the University of Stavanger (UoS), and recently supervised a couple of relevant doctoral works. In 2016, Siv Hillesøy (a Statped employee) defended her thesis at UoS: “Et vanlig barn i en vanlig barnehage? Vilkår for deltakelse i barnefellesskap for de yngste barna med cochleaimplantat i barnehagen [A regular child in a regular kindergarten? Premises for participation in children’s communities for the youngest children with cochlear implants in kindergarten].” Forthcoming is also the doctoral work of Marieke Bruin, with the working title “Parent support in educational contexts – Researching parental experiences on follow-up after cochlear implantation.”

Last but not least, a relevant doctoral study within the field of anthropology should be highlighted. In 2012, Hilde Haualand was the first deaf person in Norway to defend a PhD degree using signed language in the defense. Her thesis, “Interpreting ideals and relaying rights: A comparative study of video interpreting services in Norway, Sweden and the United States,” is highly relevant for my thesis. Her work, building on actor-network theory, is a reminder that the interaction of video-mediated settings typically takes place within larger actor-worknets, which may influence the way in which the technology comes to be seen and used. Haualand has published widely, internationally—for instance with established

researchers in Norway such as Jan-Kåre Breivik and Per Koren Solvang (Haualand, Solvang & Breivik, 2015).

5.6. Exploring signed language interaction with a strict microanalytic and sequential approach

Research on the interactional aspects of signed languages are scarce, and even fewer studies on signed language interactions have been carried out within the conversation analytical tradition, applying a strict microanalytic and sequential approach to the data. McIlvenny (1991, 1995) and McIlvenny & Raudaskoski (1994) represents some early studies worth mentioning. However, recently, a number of highly relevant studies have been published within the framework of conversation analysis (CA), and these comprise just about all the studies I could find with such an approach.

In a study investigating the arena of video relay service (VRS) (wherein a sign language interpreter mediates interaction between people using visual/gestural sign language on a video phone and people using verbal/auditive language on the telephone/mobile phone), Warnicke and Plejert (2012) set out to describe, analyze, and discuss the turn-organization of the VRS. The paper demonstrates how the interpreter: a) is a power figure; b) may sanction or not sanction an utterance; c) manages the turn-taking machinery by means of visible and audible techniques and rendition strategies; d) is not only a mediator, but a co-creator of the interaction; and thus e) plays a part that makes the participants relate dynamically to the specific setting of the service.

For the purpose of increasing awareness of Japanese Sign Language (JSL) as a distinctive language in Japan, Bono, Kikuchi, Cibulka, and Osugi (2014) started to build a corpus of

Japanese Sign Language. They included dialogic data and used this dialogue to discuss the application of CA to signed dialogues and signed conversation. Applying concepts of CA (e.g., turn-taking systems (Sacks et al., 1974) and repair sequences (e.g., Schegloff et al., 1977), etc.) and an annotation scheme including gesture units (GU) proposed by Kendon (1972, 2004), they were able to perform fine-grained analyses and make very complex observations of the signed conversations in the data, which would otherwise have gone unnoticed without the annotation scheme they developed.

Floyd, Manrique, Rossi, and Torreira (2016) expanded on the study of other-initiated repair in conversation in the domain of visual bodily behavior. Making cross-linguistic investigations, including Argentine Sign Language, their findings suggest that visual bodily practices have been semiotized for similar interactive functions across different languages and modalities.

Another four recent papers substantially add to our understanding of turn-taking and overlap in signed interactions: McCleary and Leite, 2013 investigated the interactional skills of fluent sign language users and paid special attention to contexts of overlapping talk. Their findings show that signers closely coordinate their contributions in accordance with the sequential implicativeness of gesture phases. Further, signers deploy conventional resources similar to those described for spoken languages to resolve overlap quickly and efficiently. This implies that signers, like speakers of oral languages, orient to the idea that “one party talks at a time,” and that the management of talk in interaction is achieved within a tightly organized system.

Groeber and Pochon-Berger (2014) examined a recurrent phenomenon in signed language interaction: the freezing of a sign, which they call a “hold,” in turn-final position. They ask: What is the relevance of such holds in the management of turn-taking? And what meaningful

social action do they accomplish? Their answers are threefold: a) turn-final holds occur recurrently in turns that set a strong action projection (e.g., questions); b) they embody the current speaker's expectations regarding next actions; and thus, c) their release is finely tuned to the recognizability of the relevant and expected next action in progress.

In another paper, the same researcher (now with the name Girard-Groeber (2015)) investigated in more detail the sequential environments in which overlaps occur. The findings provide evidence for the orderliness of overlapping in signing conversations. The paper further demonstrates how participants collaborated in the situated construction of turns as a dynamic and emergent gestalt, and how they interactionally achieved turn transition. Thus, the paper adds to recent research that proposes to rethink turn boundaries and turn transition as flexible and interactionally achieved.

de Vos, Torreira, and Levinson (2015) sought in their paper to answer whether turn-taking in sign might show greater toleration for overlap, or if signed conversations show a similar distribution of turn-timing as spoken languages, thus avoiding gaps and overlap. They investigated turn-timing in sequences of question-answers in spontaneous conversations of Sign Language of the Netherlands. Their findings indicate that, under the conditions of allowing for onset preparation, post-utterance retraction, and intentional holding signs for response, turn-taking latencies in sign look remarkably like those reported for spoken languages.

While all of the cited studies in some way deal with issues concerning turn-taking, to my knowledge, no study has explicitly focused on practices for addressing and selecting the next speaker in signed language interaction.

5.7. Micro-ethnographies or ethnographies

Working on the review with NTNU Social Research allowed me to conduct further searches within the collection of articles on deaf education. Searching the 1,770 entries (i.e., in the cleaned up database) for microethnographic studies resulted in only two entries. In Kim (2012), classroom data was collected using ethnographic methods including weekly participant observation in each classroom over six months, collection of classroom artifacts (e.g., student writing and drawing), and video recordings of storytelling and story writing events. Kretschmer, Kretschmer, Kuwahara, and Truax (2010) investigated the communication and spoken language development of a girl with profound hearing loss who used a cochlear implant from 19 months of age. The video recordings were taken on intervals by the parents from the time she was 3 months of age until she was 4 years 11 months of age. That I found only two microethnographic studies out of the entire set of 1,770 indicates that such studies are rare.

A similar search for ethnographies initially resulted in 24 entries, but a closer reading of the abstracts showed that only 12 of the studies actually took an ethnographic approach (e.g., many of the entries were theoretical and methodological discussions). This adds to what Holmström (2013) found in her review of ethnographic studies within deaf education (see discussion, pp. 18–27): there are not many ethnographies and studies focused on actual observations within deaf education classrooms. The 12 studies that could be said to have an ethnographic approach were: Antia and Kreimeyer (2001), who investigated the roles of interpreters in an inclusive classroom through a qualitative, 3-year case study of three interpreters in an inclusive school. Duku (2009), who worked to find an appropriate and meaningful way of teaching art to hearing-impaired children and investigated the teaching and learning of creative art activities in order to determine pupils' preference. Data was collected

through interviews, review of the individual files of the hearing-impaired children, observation, and practical work. Freeman, Dieterich, and Rak (2002) documented parents' routines, daily activities, thoughts (perceptions), and behaviors (practices). Using in-depth interviews and observations as their primary data sources, they focused on efforts parents make independently and with others (e.g., educational staff, family members) to facilitate and support their child's efforts to communicate and acquire language. Katz, Kim, and Kang (2012) documented three telling cases of young children's: a) multiple identities and the many roles they enact in their lives; and b) co-construction of knowledge from the resources that are available to them. One of the cases was of narrative practices of deaf and hearing students, exploring how intertextuality influenced the narrative practices of young deaf children in two kindergarten classrooms. Keating and Mirus (2003b) examined communicative strategies of deaf children in an American mainstream school setting to discover how they creatively managed their casual communicative interactions with hearing peers across multimodal communicative channels—visual and auditory. They show that what look like “successful” conversational interactions between deaf and hearing children actually contain little real language and few of the complex communication skills that are vital for cognitive and social development. Kluwin, Morris, and Clifford (2004) conducted a “rapid” ethnography of itinerant teachers of the Deaf. O'Connell and Deegan (2014) made an ethnographic study of deaf people's schooling experiences in the Republic of Ireland and the development of a hidden curriculum of sign language. Poveda, Pulido, Morgade, Messina, and Hedlova (2008) investigated storytelling with sign language interpretation as a multimodal literacy event with implications for Deaf and hearing children. Using tools derived from the ethnography of communication, social semiotics, and multimodal interactional analysis, they built a model to examine the impact that this discursive interrelationship between storyteller and interpreter had for hearing and Deaf children's literary experience in the event. Rabinsky (2013)

investigated itinerant deaf educators' and general educators' perceptions of the deaf and hard-of-hearing "push-in" model, collecting data from observations, one-on-one interviews, and a focus group interview to uncover various salient themes. Roos (2014) conducted a larger longitudinal ethnographic study of a signing setting, and reported on young deaf children's use of fingerspelling, taking a sociocultural perspective. Slobodzian (2009) conducted a year-long ethnographic study exploring the experiences of 20 non-deaf and two deaf fifth-grade students, as well as teachers and support personnel. The results highlight explicit messages of equality and inclusion that contradicted behaviors that marginalized and excluded the deaf students. Slobodzian and Lugg (2006), drawing on a larger ethnographic study, examined the leadership behavior of a building principal who was the administrator for a program serving deaf and non-deaf children. Although being a caring and highly skilled administrator, the school culture was ultimately exclusive and the norms of the dominant non-deaf culture went largely unquestioned, reminding the deaf students daily of their diminished status.

It is safe to conclude that neither microethnography nor ethnography have been extensively used to explore educational settings in which deaf students are involved.

5.8. Research on identity within deaf education

Because one of my papers in this thesis addresses the issue of identity, I also made some inquiries into the database with respect to recent deaf education research in relation to this concept. Searching the titles and abstracts of the 1,770 entries using the search word "identity" resulted in 44 entries. After reading through the abstracts, I found that 21 studies out of the 1,770 were about identity. Assuming that methodological differences in investigations of "identity" produce findings on different aspects of identity (e.g., Law, 2004),

I mapped the different approaches taken in these 21 studies. Out of these, some were foremost theoretical papers on identity (Grosjean, 2010; Kyle & Ladd, 2009; Ladd, 2011; Mayer, Miller, & Cocks, 2009; Storbeck, 2011). A couple of the papers dealt exclusively with hard-of-hearing students (Kent, 2003; Isrealite, 2002). Three investigated narratives collected through interviews told by adults about how important their school years were for their development of a deaf identity (Hadjikakou, 2007; Nikolarazi, 2006; McIlroy & Storbeck, 2011). And one study (Sutton-Spence & Ramsey, 2010) interviewed teachers about the role of narratives for identity development in children. Five studies used various forms of questionnaires to investigate identities (Hintermair, 2008; Most, Wiesel, & Blitzer, 2007; Sari, 2005; Stinson & Whitmire, 2000; Wheeler, Archibold, Gregory, & Skipp, 2007). Two studies took (socio)historical approaches: one (Quartararo, 2008) discussed a Deaf poet's formation of his identity in the 1850s, and Holmström and Bagga-Gupta (2013) used archival data from periodicals to discuss identity. Kunnen (2014) dealt with the issue of identity development, wherein identity interviews were administered every year over a five-year period. In a unique auto-ethnographic paper, Mitchell (2006) addressed how her experiences shaped her intersecting identities when living as a black deaf female. Finally, three studies thematized identity in a way that made the resemblance to my study apparent. Horejes (2009) used a comparative approach and grounded theory as methodological orientations. The research examined the larger issue of deafness in two types of deaf education classrooms, uncovering emergent ideologies, paradigms, identity formations, and everyday social constructions. McKee (2008) conducted an illustrative case study of a 10-year-old deaf boy with a cochlear implant and considered the extent to which mainstreamed deaf learners are constructed as potential bilinguals in the discourse that defines and addresses their needs. The analysis showed this learner to be positioned as a marginal bilingual or defective monolingual by the aggregation of beliefs, decisions, interactions, and resources that constructed his

educational context. Sutton-Spence (2010), in addition to interviewing teachers, investigated recordings of the actual narrative stories of the children involved. She argued that storytelling in schools by Deaf teachers plays an essential role in deaf children's identity development.

5.9. Review of video (technology)-mediated communication

The final section of this chapter partly summarizes many of the studies (some of which have been mentioned already) that I found most relevant to my own study, as I had an explicit focus on the mediating technology and the environment it created for participation. The research area that deals with the use of technology for communication was by far the most challenging to review, as it is probably the most vast research area that my study touches on. In order to make a reasonable outline in this section, I organize the section—and discuss various studies—along the lines of four aspects. In combination, these aspects served as criteria for selecting the research I considered relevant in this broad communication technology area. These narrowing aspects are, first, specific studies that involve similar (kinds of) technologies. Second, studies that involve similar people (i.e., signing people). Third, studies that involve a similar setting (i.e., an educational setting). And fourth, studies that take a similar approach. Studies that involved a combination of two or more of these aspects were deemed more relevant to the present study.

New technologies are rapidly changing our everyday lives, creating new meeting places and work arenas and forming new relationships across time and space. The “digitalization” of society has accelerated this development. Consequently, there has been an enormous interest in researching various aspects of the use of technology for communication. However, the use of technology for communication has long been an issue concerning communication and

identity in the everyday lives of deaf people (Holmström, 2013). The development of technologies for “aiding” communication with deaf people, including various kinds of hearing aids (e.g., cochlear implants), has created optimism for what such technologies can do for the lives of deaf people. However, as pointed out by Egbert and Deppermann (2012), research in these areas has only, to a very limited degree, been combined with perspectives from the research area of social interaction. To some extent, more general approaches to technologies shaped the context of the study in this thesis, wherein use of technology was one of the most prominent elements within the studied educational situation.

Various labels and acronyms convey the many strands of relevant research in the area, such as: CSCW (computer-supported cooperative work), CSCL (computer-supported collaborative learning), and CMC (computer-mediated communication). Further, there is CAL (computer assisted learning)—sometimes referred to as educational technology (or e-learning)—and the more specific CALL (computer assisted language learning), with its geographically limited fields, such as ReCALL (or EUROCALL). Many of these topics have corresponding journals. Also, there is MDA (mediated discourse analysis), which, while not exclusively about technology, often works as an umbrella for studies of technology-mediated discourse. Distance education is a term that is commonly used for various forms of hybrid or blended forms of education, indicating that students may not always be physically present at a school (or a co-present location) and that technology plays a part in the educational experience. Synonymous terms include distance learning, e-learning, online learning, and MOOCs (massive open online courses). The distance education field has its own journals and strands of research, such as *IRRODL (The International Review of Research in Open and Distributed Learning)*. Also, when specifying the technology involved, differing abbreviations are widely used: IVC (interactive video conferencing), VC (videoconferencing), or the one I used a lot in

this thesis, VME (video-mediated environment). There are plenty more. The abundance of research into these areas means it was not easy to provide a coherent review of the relevant research.

The field of CSCW (e.g., Dourish et al., 1996; Gaver, 1992) has provided conceptualizations of the CSCW systems according to the context of a system's use. One such useful conceptualization is the CSCW Matrix (see Fig. 5.1), which can provide an overview of different technologies, how they relate, and how they can be grouped.

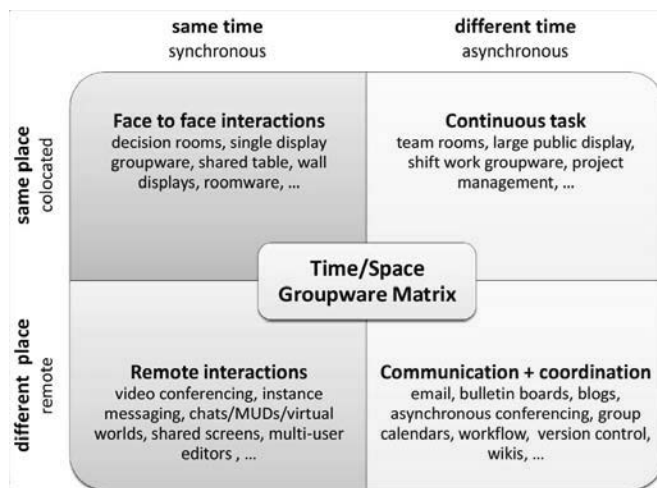


Fig. 5.1 the CSCW matrix (Source: Wikipedia)

I consider research on technologies used for remote but synchronous interactions to be relevant to this study, and I did not feel the need to narrow the search criteria by searching for studies based on videoconferencing, only. This means research on Skype conversations (e.g., Sunakawa, 2012), the “media space” of multiple cameras and monitors in London Underground control rooms (Heath & Luff, 1992), interaction in television studio control rooms (Broth, 2008, 2009, 2011), and mobile phone video calls (Licoppe & Morel, 2012) could be just as useful for understanding and reflecting on the specific setting in my studied

context as studies of videoconferencing. However, this also closely relates to the approaches taken in each of the studies. Bohannon and colleagues (2013) reviewed eye contact and video-mediated communication, which I found useful in my study. However, their review indicates that there has been much more research on issues such as the influence of the video-mediation of eye gaze on communication efficacy, trust, and impression formations (i.e., approaches more typical for the field of psychology), than research on the role of eye gaze in coordinating and organizing interaction, which is more in line with my approach. I came across several other reviews of research on videoconferencing (e.g., Andersen and Rourke, 2005; Brade, 2007; Heath et al., 2002), which were typically oriented towards potential new practitioners who wanted to employ videoconferencing in the future.

From the very beginning of microanalytic approaches and, in particular, conversation analysis, (technology-mediated) telephone calls have been studied. In the beginning, not much weight was put on the fact that the studied telephone conversations were in fact technology-mediated. Later, this was investigated by, for instance, Hutchby (2001). Studies of technology-mediated interaction taking a microanalytic approach are growing. As pointed to in section 4.2, in the beginning, studies of audiovisual-mediated conversations did not explore much into the video-mediated side of the interactions; however, recently, several conversation analytic researchers have investigated issues such as: distance video calls (Rintel, 2010, 2013); videoconference-mediated court hearings in the French judiciary (Licoppe & Dumoulin, 2010); and the use of video by surgeons when videoconferencing with external experts (giving advice online) and an audience of advanced trainees in an auditorium, who are watching the operation on a giant screen (Mondada, 2003).

Since I conducted a microethnographic study, I considered ethnographic studies relevant. Searching for studies about deaf or signing people, specifically, I only found a few studies (as indicated at the beginning of this chapter). Examples of studies I found that included the three aspects of similar technology, similar approaches, and similar people (signing people)—though not from educational settings—are the studies of Keating and colleagues, mentioned above (Keating & Mirus, 2003a; Keating, 2005, 2006, 2008; Keating, Mirus, & Edwards, 2008; Keating & Sunakawa, 2011). Also, a couple of significant studies by Haualand (2012) and Warnicke and Plejert (2012) looked at video interpreting services. While Haualand made an anthropological comparative study of the way in which modern (welfare) states (i.e., Norway, Sweden, and the USA) organize video interpreting services, taking an STS approach, Warnicke and Plejert investigated the progress of interactions among participants in the service, using a microanalytic perspective similar to the one I took in this thesis.

Finally, searching for studies involving all four of the abovementioned aspects left me with only one study: that of Elina Tapio (2013), as mentioned in the beginning of this chapter.

I came across many studies of, for instance, videoconference classroom and language learning studies from higher education. However, a problem I encountered in reviewing research on the use of audio and video-mediated settings from educational settings—as also pointed out by Develotte and colleagues (2010)—is that the settings often show a certain gradation in the way that a webcam/video is used, with more or less significant use of live images compared to other modalities. I find this also to be an accurate description of studies of video-mediated communication, which are not always clear about the significance of the video-mediated (or visual) side of communication, and this makes them less relevant for my study, in which the

interaction was based on video mediation, only. There are, however, some exceptions (e.g., Dahlberg, 2015).

I am not the only one who has found a review of research on videoconferencing somewhat challenging. A review from one of the “industry veterans” states that his review is “designed to be a lifeline for practitioners, researchers, and analysts and others [...] So that this audience can avoid drowning in the sea of distance learning research” (Greenberg, 2009, p. 23). This veteran witnessed dozens of distance learning projects over his years, and saw successes and failures. He concludes as follows:

In general, when it comes to video-based education, a few things are known for sure: that interactivity is king, that blended tools lead to the greatest successes, that this technology is vital for expanding student access to a wealth of instruction, and that video can be seen as a remarkably useful tool when combined with robust, well-planned, student-centered instruction. (Greenberg, 2009, p. 23)

6. A virtual space for participation

In this chapter I bring together the analyses and their results from the included papers to show how they, when read together, answer the main question of the thesis: What is it like to participate in classroom activities through signed language interaction in a video-mediated environment? By first addressing what the papers have in common, then presenting how the findings of each of the papers, sequentially, contribute to the main question, I demonstrate the benefits of collecting the papers in the same volume. In the end, I conclude by summarizing the thesis's overall contribution.

Common to all of the papers in this thesis—as I touched upon in the discussion of the theory chapter, with respect to how the research question was shaped—is that each paper brings together: issues relating to communicating in a new environment within the practitioner field (identity development, attention orchestration, and addressing practice) with a theoretical examination of the data (through an embodied interaction in the material world perspective); and issues that are thematized in academic discussions (identity, professional practice, and orders of mediated interaction). Thus, the findings are answers to—and contributions to—each of these areas.

A common theme across the papers is the mediated environment. The mediated environment was a central topic in all of my investigations and the main characteristic of the situation I investigated. Thus, questions emerged, such as: Can we simply equip mainstreamed students with advanced videoconferencing technologies and expect their (learning and teaching) experience to be the same as in ordinary classrooms? If not, what exactly is different about the new environment? What are the limitations? What new possibilities are enabled? Why does it all matter?

In all of the papers included in this thesis I align with an embodied interaction in the material world theoretical approach to the microethnographic (video) data. This implies that, in all of the papers, I take a thorough action perspective (a dialogical or languaging perspective) in which I systematically look for the details of the situated language use and the way that the social, cultural, material, and sequential structure of the environment in which the action occurs figure into its organization (see the theory chapter; cf. Goodwin, 2000). Further, what also binds the papers together is my investigation of the “same” semiotic ecology in all three. Nonetheless, the papers are fairly different in their findings and the implications that might be drawn from their findings. This is not only because different questions were asked, but also because I approached and treated the data in quite different ways between the three papers. It was an independent point for me that the papers should not simply present findings on different topics, but should also represent different modes of analysis and varied ways of approaching the data. Thus, this thesis not only contributes by demonstrating the applicability of embodied interaction analysis as a theoretical framework and the suitability of microethnography for investigating signed language interaction within a mediated educational setting, but also by enabling application to various scopes of inquiry and contributions to various academic discourses. Seen the other way around, by exploring fields (signed interactions and video-mediated settings) that are not often investigated through the theoretical perspectives I applied, this thesis contributes to a fast growing field of embodied and multimodal microanalysis (e.g., Nevile, 2015). Bringing these contributions together in a single thesis adds to the interdisciplinary field of applied linguistics that seeks a relational way ahead (see Chapter 4).

What kinds of findings are presented in the papers? From the review of deaf education presented in Chapter 5, it is fair to conclude that not very many studies have aligned with the approach taken here; thus, the papers contribute to the deaf education field through a perspective that is suitable for adding to our understanding of aspects of deaf education that have had only meager attention thus far. “Science” is often said to be not about unique events, but about aggregate patterns (cf. Lynch, 2000, p. 528). However, the microanalytic approaches that I aligned with in this study—building on an ethnomethodological argument—view even singular interactions as intelligible and analyzable for masters of the particular language in use, precisely because they are so for the participants, themselves. Analysis is made possible through scrutinizing participants’ sense-making and extracting their methods for doing so. This also implies that it should not be necessary for masters of a particular language (here: Norwegian Sign Language) to be “scientifically” trained to perceive what the signers say, to recognize the sort of action that is being accomplished, and to explicate how it is accomplished, although it is advantageous to have some basic understanding of the way in which signed languages are built (e.g., see paper three). The ethnomethodological microanalyst acquires his or her methodological sensibilities from “local experts” (i.e., participants), in order to extract findings about the tacit orderly organization of ordinary activities. These findings usually take a procedurally transparent form, which means that the findings are practically intelligible for the practitioner, in a way that they can say: “I can do that too” (Lynch, 2000, p. 529). This means that the findings often take a form that, to practitioners, might seem trivial at first sight (e.g., when participants use hand raising and name-signs to organize turn-taking, as shown in paper two; or when a teacher chooses discussion as teaching format, as shown in paper one). Since they are already using the discovered practices, simply making them aware of this fact might not seem so impressive. However, when the findings are seen in their contexts, when it is shown what the practices

help accomplish, and when their implications are made clear, their significance stands out. Then, the findings come to be seen as real contributions to the field of deaf education practice, as well as to other practitioners, deaf education administrators, policy-makers, and interested researchers in the deaf education field. But equally significant, the findings from everyday mundane interactional activities can contribute to the development of theories of human interaction and sociality, of which there are several examples in this thesis. The procedural transparency is what makes the findings of such approaches “ecologically valid” (Cicourel, 2007)—as mentioned in the theory section—which implies that the findings are useful for practitioners to a much larger extent than is much of the research within deaf education, from which it is sometimes difficult to extract the practical implications (Hjulstad et al., 2015). Consequently, “the repeated demonstration of how intersubjective order is achieved relentlessly at the surface of communicative actions remains conversation analysis’s [along with other microanalytical approaches’] most important lesson for the social sciences” (Lynch, 2000, p. 529, my added brackets). The detailed ways in which the procedures are explicated also enables comparisons across contexts; thus, findings can be accumulated to form strong theories of human interaction.

Reading the analysis and findings of each paper provides a more complete answer to the main question: What is it like to participate in classroom activities through signed language interaction in a video-mediated environment? I attend to this task, next.

6.1. A virtual space for negotiating deaf identity

The study was initially set up to examine classroom interactions in a new video-mediated environment with exclusively signing participants (i.e., teachers and peers). However, a

unique opportunity presented itself when one of the groups worked with a “friendship” teaching plan, and, on the initiative of one of the students, the group decided that each of the signing students would invite a hearing, non-signing friend from their local school class to the distance education classroom. Thus, the students took advantage of the possibilities offered by the technology to find new ways of participating in this environment. This actualized the issue of identity in the teaching plan to a larger extent than was actualized in many other teaching plans, and the invitation and inclusion of “others” (i.e., hearing friends) touched upon the deaf students’ intersecting multiple identities in specific ways. Three aspects were implied, reflecting the various findings that emerged from the analysis.

The particular teaching plan turned out to be salient for identity development. Evidence from various sources pointed to the same (series of) event(s): the invitation lesson and its consequences, and a repeated message from the participants and their teachers that it had been a success. The success relates to the “friendship” teaching plan’s positively valued effect beyond the distance education setting for the students and for their relationships with the hearing students at their local school. This effect was connected to a reported change in the typical ways in which the students participated in activities with their peers. The observations suggest a close connection between who the deaf students are (or can be) for others and the organization of participation. It was pointed out that deaf students’ opportunities for making themselves known is limited in mainstreamed settings, and that inviting friends from their mainstreamed settings to the video-mediated environment enhanced their chances for doing so.

The technological configuration is significant for its influence on the typical organization of participation. The video-mediated environment represents a semiotic ecology that constrains

but also enables new participatory possibilities, and therefore influences the interactionally accomplished identity negotiations. Four points support this: a) The design of the videoconferencing technology cannot, paradoxically, be said to have been initially made for only video-mediated communication. b) Muting the microphones redistributed the responsibility for maintaining the stability of the environment as a visually-oriented space onto the reconfigured technology. Thereby, the participants' hearing abilities were irrelevant for establishing and sustaining joint attention and coordinating activities. Instead, the students' participatory skills in this environment were highlighted. c) The teachers chose and adjusted their teaching formats to fit the affordances and the very purpose of teaching within a video-mediated environment. For instance, the teachers chose tasks that favored peer interaction and peer learning—areas that are considered vulnerable for many mainstreamed deaf students (see the theory chapter and, e.g., Xie et al., 2014). d) The students' increased familiarity with the designs, templates, and teaching formats contributed to stabilizing the environment; thus, the students could dedicate their attention to simply taking part and not on how to participate. However, learning how to participate in this environment also implies the students became able to perceive its affordances and actively use this knowledge when planning for the invitation lesson; that is, when cooperatively designing and adjusting its participation frameworks. The students fashioned participation frameworks to which their friends were invited that allowed for a non-conflictual identity position, “friend,” in spite of unshared sociolinguistic practices and primary modality orientation between the two groups of students (the notion of “primary modality orientation” is used to preserve the idea that regardless of whether communication is conducted in signed language or spoken language, both languages are intrinsically embodied and multimodal, even though there are important differences between hearing and deaf students in the primary modality they orient towards (cf. Keating & Mirus, 2003b)).

The students' negotiated identity-talk-in-interaction, which they conducted while simultaneously cooperatively accomplishing the task given by the teacher, concentrated on seven points: a) When the students were allowed to influence the planning of the invitation lesson, they focused on not only the content (what to do) of the lesson, but also the procedure (how it should be done) of the upcoming lesson. When the students proposed frameworks for participation they chose relatively known formats (a quiz, telling of a shared narrative, presentation rounds) while they simultaneously established categories based on ability to participate, rather than disability. b) Based on the students' own experiences and expectations of what their friends would enjoy, they interactively contested, negotiated, and sorted out the proposals. In this way, the arrangement details of how participation in the invitation lesson would be organized were driven further, and issues that could possibly destabilize participation were sorted out. c) A relatively stable framework for participation was secured through cooperatively working out a procedure that dealt with who would do what, and in what order, in the upcoming lesson. Most notably, this was done by assigning and distributing the various planned actions (or steps in the procedure)—which would be accomplished through different primary modality orientations—onto the different activity sequences. e) The technological configuration was taken into account when the students formed their utterances and imagined how their friends would take part in the video-mediated environment. f) By deciding to give the visiting friends homework (to learn some basic signs) in order to prepare them for the visit, the signing students took on a new position relative to their friends that allowed for new patterns of participation in the mainstreamed setting outside the distance education classroom (i.e., a tutor role). Thus, the shared repertoire of resources for interacting in and sustaining the friendship were increased. g) The signing students discussed and foresaw that the hearing friends would be allowed to experience the following: i) what it is

like to have to learn signed language in order to participate, and the fun involved in doing so; ii) what it is like to find themselves in a similar situation as the other hearing friends of the other signing students (who would also be new to the setting); and iii) what it is like to meet their deaf friend as a member of a collective that allows the deaf friend to self-present in ways that are new to the hearing friend. h) Finally, seeing the invitation lesson in light of the collaborative planning of the previous lesson, the invitation lesson proceeded with the participants fulfilling their parts by contriving with the actions that were expected of them. Meanwhile, the mediating technology vanished into the background (as a stabilized environment). Thus, the deaf and hearing students could focus on just being friends and having fun in class.

6.1.1. Learning from identity negotiations

The analysis of the first paper and its findings provide rich details on what it was like for the students to participate in this environment, and contain several implications for identity development, inclusive education, and the role of technology. The implication for deaf education, which aims for deaf students' development of a positive identity, should be clear. One of the most consistent findings across research in deaf education is that deaf students tend to struggle more, both academically and socially, than their peers in mainstreamed settings. One aspect of this struggle that is relevant for the development of a positive deaf identity is that being the only deaf student in the local school makes it difficult for a student to fully make him or herself known to the other students; in other words, who the deaf students are allowed to be for others in their class is limited. However, when hearing friends from the local mainstream class were invited to the VME, the deaf students were able to show more and other sides of themselves and embody roles they usually did not possess in the

mainstream setting. Importantly, the ways that participation was organized is crucial for accomplishing this. This also had an impact on the hearing students. By being invited to the VME, the hearing students got a chance to meet their deaf friends in a collective of other deaf friends, and get a glimpse of who the deaf students might be when not being the only deaf student in the mainstreamed setting. In the “friendship” teaching plan, the identity of “deaf” was renegotiated in quite extraordinary ways that also affected the mainstreamed setting. For example, “deaf” became associated with the identities of “expert,” “leader,” and “skillful.” There was a reversal of the role of the “disadvantaged,” implying that instead of the deaf students being the ones with the “loss” of hearing, the hearing students had a “visual understanding loss.” A “deaf world” was created for the hearing students to enter and experience, but as a consequence of the way in which participation was carefully organized, the hearing friends loved it.

The paper also has noteworthy implications for the inclusive education of deaf students. The opportunities described above would simply not be possible if these students had not been able to develop signing skills and positive identities in a “segregated” environment in the company of other signed language learning students. However, this does not imply that the students were interested in “isolating” themselves from their hearing friends at the local school. On the contrary, when given the opportunity, and on the initiative of the students, themselves, they wanted to invite and include their hearing friends in their signing peer community. In fact, the deaf students were very active and enthusiastic about planning and carrying out a quiz friendship game that contributed to bridging the gap between the deaf and hearing students. The policies of “inclusive” education in Norway are supposed to mean that learning activities, classroom practices, and the learning environment are adapted in such a way that all students can participate on their own premises. Practices of “inclusion” and

“exclusion” are situated accomplishments. For real inclusion of deaf students in mainstreamed settings to be possible, participation frameworks should be organized in such a way that they work against identities of “disability.”

The technology played a significant role in accomplishing the identity negotiations. While the theme of the teaching plan was friendship, the initiative of inviting a friend from the local mainstream class came from one student. Whereas this demonstrates the student’s agency, it also indicates that this student foresaw or imagined the technology to provide an opportunity for inviting friends to experience other aspects of themselves. This means that the technology—that is, how it most fundamentally came to be seen—was not defined by its properties, but in the way it was employed (cf. Hauland, 2012). The technology was initially set up to create an arena for signing students to come together. However, while it did function to accomplish this task, the way it was employed in this particular teaching plan also turned it into a tool for the deaf students to enable new ways of relating to their hearing friends at the local schools. Thus, it was not the technology, itself, that made the invitation lesson a success, but the ways in which it was exploited.

The paper addresses issues that are relevant for the theorization of identity and identity development. The empirical analyses of embodied interaction in the material world (even if I refer to the environment as “virtual,” I still see it as mediated through (semioticized) embodied and material entities, such as hands, the head, eyes, arms, and web cameras and computer screens, etc.) provide support for research holding that identity is accomplished in mundane everyday situated interactions. It is argued, in line with researchers who seek to theorize intersectionality and the relationships between multiple identity categories and subject positions, that various spaces (or environments) stabilize certain identity positions

while they destabilize others. Given that there is general agreement that identities are interactionally accomplished, this paper's particular and independent contribution is its entertaining of the idea that what is stabilized is interactionally accomplished through the ways that *participation is organized in such environments*. A further suggestion is that there is a connection between becoming familiar with the typical organization of participation frameworks in a certain space and who can be "at home" within the particular environments.

A final comment should be made in relation to the investigation of the students' identity negotiations. Explorations of particular identity categories (e.g., deaf) are often carried out through interviews. The reason for this might be that it is awfully complicated to study identity and intersectionality through investigating situated interactions (e.g., McCall, 2005). This pertains to the fact that there is no direct connection between what someone does and how this person sees her or himself (i.e., their identify). Made relevant to this context, neither the fact that the students had hearing loss nor the fact that they signed, in themselves, implies the students identify as (culturally) deaf. This issue was addressed by Goffman (1961) through his concept of the "interactional membrane," which concerns what passes the membrane of relevance. Whether information about individual participants is relevant for their identity depends on the way in which participants use and orient to these categories when interacting. Participants do not have to talk about identity categories explicitly, but they must have some way of showing each other (and hence an analyst of the interaction) their relevance for the talk. The analysis of identity negotiations was based on the lesson in which the students planned the invitation. However, in the invitation lesson, itself, identity categories (e.g., deaf, hearing, skillful, not so skillful, etc.) were never talked about. This does not imply that the students were not doing those categories—on the contrary. But when the students were attending to (doing/being) the more encompassing (intersecting) identity of

“friend,” it became complicated for an analyst to make visible the other identities (e.g., deaf) that were relevant when these other (different) identities were not (actively) attended to. Consequently, I contend that the students were doing deaf identity even if it was “backgrounded” in their activity in the invitation lesson. The important point is that this lesson was not successful by chance—it was planned and negotiated in the “planning lesson,” which took place before the invitation lesson. Moreover, this was where the “other-than-friend” categories were made relevant by the students responsible for planning the lesson, and allowed me to access what was relevant for them. The fact that the lesson turned out as planned is validation that I gained access to what it meant for the deaf participants to do deaf identity in a setting that also included their hearing, non-signing friends. This was not immediately visible from just looking at the invitation lesson, beyond the observation that the students were having fun across modalities.

6.2. Orchestrating visual attention in a virtual space

In this section I turn my attention slightly more towards what it was like for the teachers to participate in and play their role in this environment. However, such questions are still relevant to the students’ experience of the setting. The teachers reported the concern that, in contrast to what they were used to in ordinary classrooms, in the studied distance education setting it was somewhat difficult for them to continuously monitor their students’ attention and whether the students were in fact following along and paying attention to what was going on in class. To be specific, it was fairly easy to judge whether the gaze direction of the students was directed off screen (i.e., to the side, up, or down). However, it was difficult to determine exactly where on screen the student was looking (see, e.g., Bohannon, 2013, for a review of studies that deal with video-mediated communication and eye contact). The

teachers claimed that in co-present classrooms they would usually monitor the students (i.e., their gaze direction and bodily orientation) to check their continuous attending to the “right” location. Based on these statements, a few assumptions can be made: a) teachers’ orchestration of students’ attention in concerted activities constitutes a critical skill in their professional practice (other research, e.g., Kääntä, 2010, in some ways suggests this is a general concern for teachers, and not just a concern in connection to visual-oriented practices with deaf students, or in mediated settings); and b) bearing in mind that use of eye contact is described as “the primary method by which the interactional axis between the speaker and listener is sustained” (Streeck, 2009, p. 86), and that the teachers reported that this multiparty video-mediated environment (based on the technology’s rendering of how the teachers saw the eye gaze of their students) made it hard for them to know whether the students were following along, one can assume (i.e., hypothesize) that the teachers had to adapt their strategies and practices in order to assure themselves that the students were paying attention. These adapted strategies and practices fell into two groups: a) establishing and sustaining an interactional space; and b) coordinating continual shifts in attentional focus.

Teachers adapted their strategies and practices for establishing and sustaining an interactional space. One of their practices involved waving in order to establish that the interlocutors did, in fact, have a condition of mutual visibility. One aspect of how the mediated classroom situation differed from regular classroom situations is that—even if participants saw the others on their screen and got an indication via the self-view window that they were being correctly filmed—there was no way to know for sure that the participants could mutually see each other. Across the data, the teachers and the students, from the very first moment they connected, sought to establish that they, in fact, could mutually see each other; I return to this point below. These observations were precursors to the finding of how this was typically

solved in the setting: through a particular manner of waving. More specifically, an initial wave was followed by a second pair part, making it a reciprocal wave and thus an act of greeting. What made this practice relevant for the adapted strategies of teachers' orchestration of their students' attention in this virtual setting is how it was performed. It was performed by continued waving until everyone had responded; that is, until every participant had waved back—a form of multiparty waving. In this way, waving took on the function of coordinating the visibility of all the (tele-)present participants. This waving was, in most cases, initiated by the teachers, and in cases when a student failed to return a wave, the teachers would typically initiate a repair, adding the particular student's name with one hand while waving with the other. The speed with which all of the groups in my data took up and resorted to this practice suggests that it was easily available. Thus, this kind of waving served to establish the interactional space, and was a first step in establishing a “working consensus” (Goffman, 1963), with participants showing each other they had mutual monitoring capabilities.

Also related to the adapted practices for establishing and sustaining interactional space is the way in which the participants aligned their bodies to be mutual visible across the virtual space, and how this facilitated the teachers' orchestration of students' attention. The participants oriented to each other's bodily alignment in relation to the mediated environment, and this can be analyzed as *interacts* that were negotiated and repairable in much the same way as talk. Thus, a norm (i.e., a tacit agreement or working consensus) developed that, at any time, the participants' face and arms should be visible on screen. This norm became their default way of sustaining joint focused attention and maintaining the interactional space. Consequently, the interactional work the teachers took on to sustain the correct alignments of their students' bodily postures relative to what the filming cameras captured can be seen as part of the more encompassing task of orchestrating visual attention in the environment of a

virtual classroom. One of the consequences of not conforming to this working consensus is that the interlocutors could not know for sure whether the condition of mutual monitoring existed; thus, the condition would need to be restored in order for the interaction to proceed.

The teachers also adapted their practices with respect to the continually shifting locus of attention. Even though the windows displaying each of the participants were located within a relatively small and confined space on a screen at each end, the participants still had to shift their gaze direction constantly, and this made it difficult for teachers to discern exactly where the interlocutors were looking at any time. There were a bundle of practices (of which five are presented) that the teachers initiated and employed to coordinate the shifts.

First, the teachers encouraged and expected students to raise their hands to facilitate their organization of turn-taking and turn allocation in the virtual classroom. The teachers anticipated that students would face challenges in connection to the continual shifting of gaze on their screens, and thus the teachers initiated a hand-raising practice, which the students adhered to. Over time, less hand-raising was used. Reports from the teachers in later follow-ups confirmed a continuation of this trend even after the period in which the data was collected, as the participants had become increasingly familiar with this particular environment. The practice can reasonably be assumed to have facilitated the teachers' orchestration of the students' attention.

A second adapted practice was extensive use of name-signs in this environment. The teachers concluded that, due to the technology's rendering of the environment, they would use the students' name-signs to address or allocate turns. This made sense, given that name-signs are typically used in cases where there is some uncertainty as to who is being addressed. Adding

a name-sign to a directional resource such as an eye gaze, point, or signed direction would specify who the directional resource was referring to. Thus, the extensive use of name-signs was an important practice in the orchestration of attention in a setting where not all of the participants shared the same space, and it allowed the interlocutors to use this information to shift their gaze to the correct window on their screens. (This practice was also significant for the investigations in the third paper.)

A third adapted practice was the use of turn-initial waves. Compared to the greeting waves mentioned earlier, a clear distribution between different kinds of waves was found. This is in contrast to Kendon's (1990) finding that the "flapping" hand wave (or what I like to call an "attentional wave") was also common in greetings. The flapping hand wave is very common in signed (often multiparty) interactions. It is a way to attract the attention of an interlocutor who is momentarily gazing in another direction, and thus functions as a bid for a turn in the conversation. However, this frequently observed practice in this environment was employed even when all the participants were apparently already looking at the signer. Thus, the frequent use of the turn-initial wave suggests uncertainty as to whether there was mutual eye contact; this uncertainty was probably instantiated by the environment, which made it difficult to judge whether an interlocutor's gaze was truly directed in the right location. This suggests that the extensive use of flapping waves—in addition to being a bid for a next turn—also took on the function of allowing interlocutors additional time for an eventual shift of gaze direction, and thus enabled them to secure eye contact in this particular setting. Thus, the turn-initial waves played an important role in orchestrating the students' attention.

A fourth adapted practice was the use of turn-final holds to signal an expected response. There were many turn-final holds in this environment, a phenomenon (including freezing

signs in ongoing conversation) that has recently been studied by a few conversational analytic scholars (e.g., Groeber & Pochon-Berger, 2014; Enfield et al., 2013, pp. 371–374). Turn-final holds recur in turns that set a strong action projection—for example, questions. While held, they serve as a constant reminder that a response is waited for. In the video-mediated environment, they seemed to be used more often and were typically held longer than what I would have expected in co-present situations. The extended use of this practice indicates that the teachers employed it as a resource to ensure that their students were actually following the ongoing activities in an environment that made it more challenging for the teachers to “read” the students’ signals of attention. Failure to obtain the expected response typically led to a repair, which, in co-present situations, may have meant that other available resources were resorted to, such as “flapping” waves, thumping on tables, or stamping feet—all of which are common practices in the deaf community for attracting attention. The restricted possibilities in this particular environment to resort to other resources may account for the reason why holds were often observed to be sustained longer than usual in this setting.

A fifth adapted practice of encouraging and enforcing visible recipient behavior is connected to the previous one. The teachers’ repeated and extensive use of holds may have had the effect that the students eventually learned it was important for the flow of communication to visibly display that they were following along. However, throughout the investigated data, several examples can be found of teachers explicitly explaining to the students that it was (and why it was) important for them to yield visible recipient behaviors to reduce uncertainty as to whether they were in fact paying attention. On the other hand, this demonstrates and attests to the fact that the teachers were continually monitoring whether the students were paying attention. This also supports the notion that the orchestration of student attention was a central task for the teachers in this setting.

6.2.1. Learning from professional practice

The second paper contributes to our understanding of strategies and (best) professional practices for facilitating learning in “visually-oriented” and technology-mediated settings, and thus adds to our understanding of what it is like to participate in such an environment. Applying the notion of “visual orientation,” borrowed from Sangeeta Bagga-Gupta (e.g., 2004b), the paper foregrounds the communicative practices and argues for incorporating the wider range of practices and skills implied in signed language contexts than what would be provided by a more narrow focus on language, itself. The notion also captures the recurring practices, or “habits,” for accomplishing activities when a strong visual orientation is involved. The practitioners’ representations of their “techniques of the body” (Mauss, 1973 [1935]) can be conceptualized as the cultural products—or their “habitus”—for solving recurring tasks and activities in this environment. Owing to the fact that eye contact is a prerequisite in signing interactions (McIlvenny, 1995), practices for maintaining eye contact became all the more important. The teachers were seen to take on a special role in orchestrating the students’ display of visual orientation, and this coordination of gaze direction became part of how this video-mediated environment, as a teaching institution, was “looked into being” (cf. Heritage, 1984, p. 290; see also Nevile, 2015, p. 140). Thus, these skills and practices formed a constituent part of the teachers’ “professional vision” (Goodwin, 1994)—that is, “the socially organized ways of seeing and understanding events that are answerable to the distinctive interests of a particular social group” (p. 606).

Three major implications emerge from the analysis and findings. First, the distance education setting was set up to provide access to professional practitioners (i.e., teachers) with a sought-for expertise—that is, visually-oriented communication and teaching skills. Through the empirical account of these teachers’ professional practices, the teachers’ orchestration of

students' attention (i.e., visual orientation) became a critical skill that acquired new importance in this video-mediated environment. Second, in this environment, in which the technology mediated synchronized images of all the participants to each participant—simply being seen and seeing the other participants was not sufficient. Because this is a critical point, I dedicate space to elaborate more on it here than was possible in the paper.

I discovered that one aspect of the mediated situation's difference from a regular classroom situation was that—even if participants saw the others on their screen and got an indication through the self-view window that they were being filmed—there was no way for participants to know for sure that they could mutually see each other. In the “practice of waving” section, above, I mention this point; however, here I will provide an illustrative example of the very first time a student, Roy, tried the technology and logged on to the virtual classroom. The short sequence is taken from the very beginning of the group's second lesson in the virtual classroom. The group consisted of three students. Two of the participants in this particular lesson (Pam and Beth) had participated in the first lesson, but this was Roy's very first time participating in the virtual classroom setting. From what can be seen on the screen later in the recorded lesson, all three students had their local sign language/special needs teacher by their side, and Pam had even invited two (hearing) classmates to follow the lesson from the side. All of these visitors were sitting outside the camera angle. The three students on screen knew each other somewhat from the part-time stays at the school for the deaf, where they met together with a larger group of students a few weeks each year. The short sequence starts at the moment Roy logs on and discovers that the other students are already there. The last person to arrive is typically shown in the main window of the other participants' screens. The teacher from the school for the deaf has not arrived yet, and it takes some time before the teacher finally appears in front of the screen.

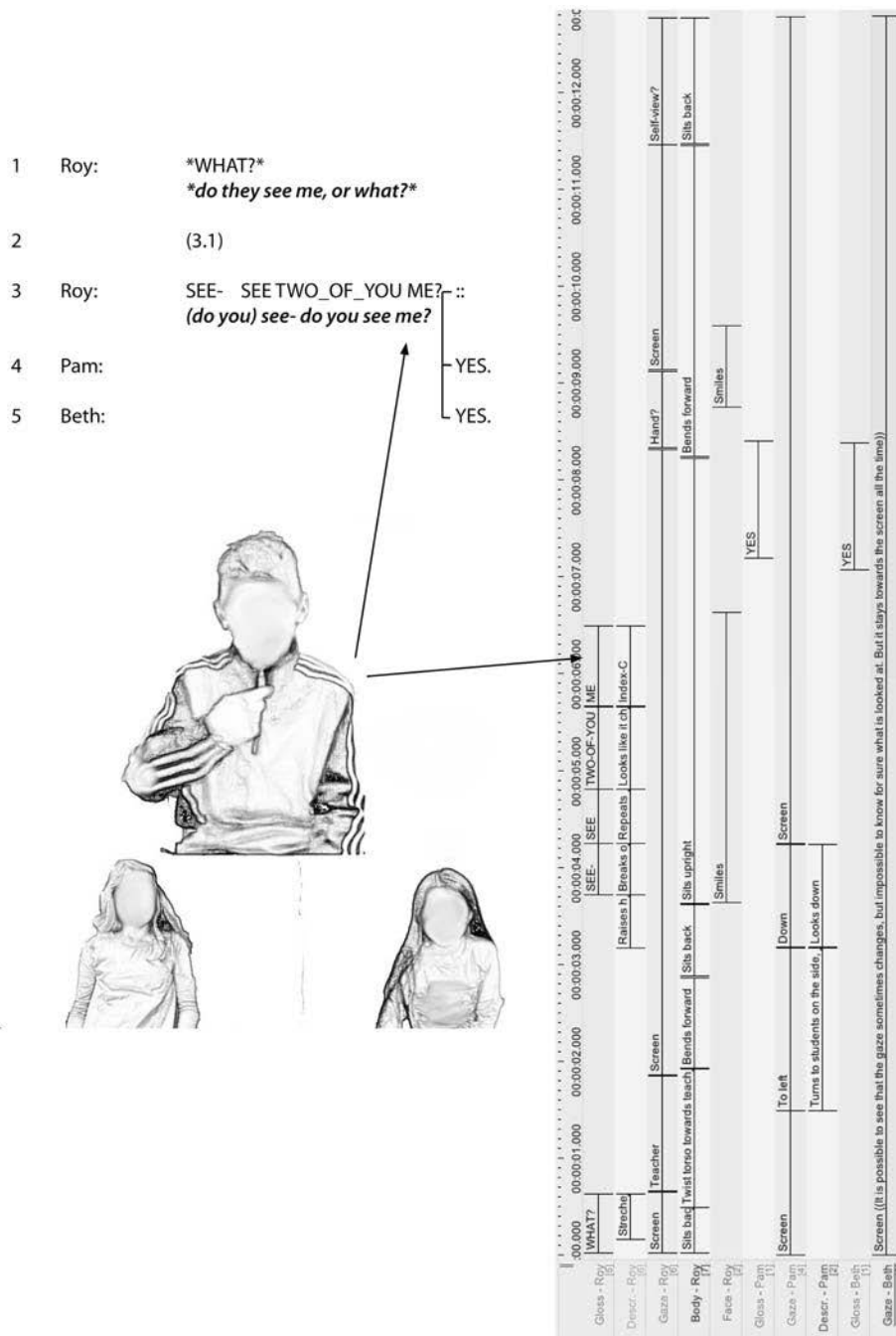


Fig. 6.1 Transcriptions: do you see me?

The instance the sequence starts, all three students look towards their screens. Roy moves his torso backwards, stretches his arm towards the screen, palm open, flat, facing up; that is, he makes a gesture that very much resembles the conventional sign for WHAT. Instantly, he turns his head towards the right (Roy's right), looking towards the person (i.e., the local teacher) who is sitting at his side, outside the camera angle. He raises his eyebrows, and by the movement of his lips we can tell that he is saying something. Because the microphones are turned off, his vocal production is not recorded through the videoconference technology, so it is impossible for us (either me as the researcher or the students at the other ends) to know precisely what he is saying. However, even when he is speaking vocally and we are left with no sound, we can tell by his raised eyebrow that he is asking a question (according to the sign linguistic convention of marking questions (cf. Vogt-Svendsen, 1990), which is a practice shared also by hearing individuals who often perform this movement when asking questions (cf. Ekman & Friesen, 1978)). Further, because his arm is stretched towards the screen, we get an idea of what the question is about. While reading lips is difficult, from playing the sequence repeatedly, I am fairly sure he is saying *Sjer dæm mæ, eller?* ["Do they see me, or what?"]. Of course I cannot be 100 percent sure I lip-read this correctly, nor can I determine whether this was available to me through a repeated look at the data, nor can I tell whether this also could have been available for the interlocutors. However, none of this matters much, since the bundle of movements (gesture/manual sign, gaze direction, facial expression, and body orientation) is so clearly unintended for the screen, but directed to someone sitting in the same room as the student, outside the camera angle. The other students' lack of response support this, indicating that they interpreted this as not-for-them. Therefore, either way, his speech is not necessary to determine as long as the on-screen interactions are the focus of the exploration.

It is not possible to know from the data whether the local teacher responds to what Roy has just said, since she is outside the limits of the webcam. What happens next, however, is that he immediately turns and directs his gaze towards the screen. It is as if he is reminded that he can just ask the on-screen participants, and so he does. When the sign/gesture WHAT is finished, he (again orients towards the screen and) forms the question SEE- SEE TWO_OF_YOU ME? There is a 3.1s “pause.” However, scrutinizing this further in the more detailed (however less readable) transcript, we can see that much more is going on. Notice how, just before Roy turns his gaze back to the screen, one of the prospective interlocutors (Pam) looks to the side and smiles, apparently at something going on at her right side (perhaps her visiting friends). This lasts for just a brief moment, and as she starts to turn her head and torso back again, Roy first raises his hand (with an extended index finger, making his gesture recognizable as regular hand raising) and smiles. But almost in the same movement, he lowers his hand again and goes on to sign SEE-. Pam does not return the gaze at first, but looks down for a brief moment. This coincides precisely with the moment in which Roy produces the first sign (SEE-) of his utterance. The last part of the sign is performed slowly, and at the moment Pam returns her gaze to the screen, he cuts off the movement and repeats the sign, followed by the rest of the utterance: SEE TWO_OF_YOU ME? This demonstrates that Roy (from the very first instance he experiences this environment) shows sensitivity to the others’ gazing behavior when producing his utterance (cf. Goodwin, 1981). I am not going to delve into the details of how these three signs are produced manually, but will only state that the signs are conventionalized signs from the vocabulary of NSL. Non-manually, however, it is significant that Roy performs these signs with his eyebrows raised—a conventionalized way of indicating a question in sign language. Even if Roy lowers his hands and completes the manual sign, his raised eyebrows and the last mouthing movements accompanying the sign ME are held still throughout (see image),

indicating that he is waiting for a response (cf. “holds” in Groeber & Pochon-Berger, 2013). The response he gets from the other two students, the immediate performance of the sign YES, demonstrates a sharply timed and concise reaction, leaving no doubt that they have in fact both seen and understood him, and are responding to his question. His acceptance of the response can be seen in his reaction to it, which, in this case, consists of a smile and stretch forward towards the screen, reaching for something below the camera angle (perhaps the computer mouse). By the movement of his lips, it appears that he says something like “a-ha [.] okay.” He then sits up, looks towards the screen and appears ready for more communication through the screen.

What is significant here and relevant for our understanding of what it is like to participate in this environment is that, from the very moment the students connect, they seek to establish that they, in fact, have a condition in which they can mutually see each other. In other words, they immediately understand that what they see are not the others, but a mediated image of their interlocutors. This demonstrates that, in order to start communicating in this environment, an interactional space must first be ratified. Thus, even if the technology portrays them as gazing at each other, eye gaze and mediated eye gaze are not treated the same. It becomes apparent that the greeting practice of waving described earlier serves to validate the already arranged bodily postures. Further, the maintenance of these bodily alignments serves as the default way of showing each other that a working consensus for sustaining joint focused attention has been reached. Combined with the practices of securing that the gaze of interlocutors is directed in the “right” direction, this gives ground for concluding the second major implication of this paper, that it is not enough to see and be seen in this environment; rather, it is knowing what the others see that is critical.

This is also consequential for the third major implication of the second paper. The teachers (as well as the students) not only oriented towards what was “being said” in the classroom, but also towards a much more complex range of embodied and multimodal cues than provided by “talk,” alone. Such cues are crucial for understanding what is involved in new teaching environments such as the one studied in this thesis. The plain implication for deaf education is that the professional practice of “visually-oriented” teachers involves much more than just the application of signs and a sign language “system.” Thus, the implied suggestion is that this should be attended to in the development of the professional practice field of “visually-oriented” communication within deaf education. However, the paper also provides specific support for a couple of theoretical developments within social interaction research. First, without arguing against the importance of talk, the analysis supports the “logocentrism critique” (e.g., Erickson, 2010) and the tendency to emphasize the study of talk’s local conduct over other aspects of what happens locally during the course of focused interaction. Second, the demonstrations of how the teachers adapted their strategies and practices in order to ensure that ongoing interaction would be accessible to all students supports an important contribution to communication theory: “if we take multimodality seriously, we entirely rethink the putative primacy of language in meaning making” (Enfield, 2011, p. 64; cf. Enfield & Levinson, 2006, p. 28). The “other orientations” (Linell, 2009, p. 13) that the teachers displayed through their adapted practices in order to coordinate mutual orientation support the conception that judgments of the meaning of utterances should not be based on what the producer does (or says), but on what resources are available for the interpreter to recognize the information the producer reveals (cf. Enfield, 2011, pp. 64–65).

6.3. An interactionally built virtual space

In the third included paper in this thesis, I turn my attention to the fact that not all of the practices in the various classrooms were conducted in the same way. In this paper, I deal with one teacher's extended use of pointing, which, after closer inspection, connects to, and is thus framed within, the context of addressing practices. The paper analyzes the conduct of a teacher who initiated seemingly reliable addressing procedures in a conspicuously different way to that of the other teachers. This comprises the main finding of the paper.

The paper starts by establishing a clear explication of the problem under examination: the studied video-mediated environment undermined some instances of participants' ability to make relevant sense of their co-participants' conduct. This connects to earlier works within conversation analysis (e.g., Luff et al., 2003) that have made it clear that technology-mediated environments typically represent "fractured ecologies" that can potentially lead to "fractured conduct." This has specific consequences for what it is like to interact in such environments. The focus of the paper, however is on investigating the practices used to address recipients during videoconference-mediated classroom interaction. Addressing practices are consequential for teachers, in general, as they use various embodied resources to select the next speaker in an instructional setting; but since the microphones in the video-mediated environment studied here were muted, the teachers in this particular setting faced additional challenges when addressing and selecting the next speaker (i.e., signer) amongst participants using a sign-exchange system (i.e., signed language).

Through a stepwise analysis, the investigated practices of addressing recipients and selecting the next speaker are clarified, and, along with these, a mapping practice. The analysis was completed by explicating some of the complexity of building "composite utterances"

(Enfield, 2013) when using Norwegian Sign Language, in addition to drawing on other resources for meaning-making. For the purpose of coherence, the same one-minute clip was investigated for all the examples. In order to dissolve the referential mapping practice into its details, first the phenomena of “simultaneity” and “sign-spatiality” were covered. Then a demonstration followed of how the investigated practices were embedded within and intertwined with the collective classroom activities. Finally, the main finding was demonstrated of how one teacher initiated the innovative (mapping) practices—employing various signing and pointing actions that were specifically designed for the affordances of the layout in the VME in order to suggest to the students a way of referentially navigating the interactional space by mapping out referential locations in the signing space.

The signing participants drew upon a range of articulators (i.e., semiotic resources)—both manual (handshapes, orientations, locations, and movements) and non-manual (eyebrows, head, mouth, and body movements, etc.)—to make simultaneous constructions and utterance actions. Incorporated within these utterance actions were examples showing that addressing everyone in this video-mediated environment (or allocating a turn to any of the students at once) was accomplished through pointing (a swiping point implying a plural “you”) in an unambiguous way.

The phenomenon of sign-spatiality is relevant for the procedure in which recipient address and next speaker selection is accomplished. In one example, the signer (i.e., the teacher) recruits the space as a semiotic resource through imbuing the signing space with meaning. Using space (in this way), the teacher exploits the possibility in signed language to make inclusive and exclusive “pronouns.” Thus, he varies the (forms of) pointing actions he uses when he makes another plural “you,” (glossed `THREE_OF_YOU`), addressing all (three) of

the students. By employing a handshape with three extended fingers and placing this towards the screen, then moving the handshape in a circular movement, the teacher indicates that all three interlocutors are included. Importantly, by adjusting the circular movement vertically, he adapts to the affordances of the VME. The vertical circle movement makes the adaptation coherent with the practice of mapping areas to refer to each of the students. Common to the above instances in which the teacher addresses the students is his addressing of them as an assemblage of individuals by exploiting the general direction towards the camera to refer to them all.

The fact that the teacher addresses the students as an assembly also connects to the way in which the practices are not done as a separate activity, but are managed in the ongoing conduct of interaction. Explicating how the teacher builds an elaborate question, it is suggested that the teacher deliberately designs the question in order to have the students produce their response simultaneously, as an ensemble. This may: a) be a particular strategy the teacher uses to gain a sense of unified space; b) prevent students from simply copying other students' responses; c) create a dyadic framework in the midst of a multiparty framework; and d) create a new topic for discussion that the teacher can follow up on if the students come up with diverging responses to the question. Thus, the practice is shown to be embedded and intertwined with collective activities (e.g., understanding checks, asking questions to the whole class or an individual student, etc). In summary, it can be seen that addressing the students and allocating turns to them as a collectively constituted conversational partner were not necessarily constrained by the VME.

Next, two instances of more specific addressing and turn allocation in the fractured ecology of the VME were explicated in the paper. The main finding of the paper are two versions of the

mapping practice, with slight variations as to how they can be performed. In the first instance, the pointing action is performed through a long continuous point, which can be seen as a single gesture that acquires its meaning through the locations it stipulates and the nodding/head shakes in accordance to the content of the students' responses. In the second instance, a more elaborate and complete referential mapping is accomplished, including more distinct pointing and use of name-signs for all interlocutors. Several significant implications apply:

- the referential mapping implies that the students learn to see a point in some direction (not towards him or her) as referring to just him or her;
- the teacher's simultaneous employment of the name-sign and pointing towards a specific direction specifies who is being referred to;
- the mapping of locations in the interactional space—through a relatively close successive connecting of points, one after the other, to different locations in the visual field and linked with a specific student—builds the interactional space;
- signs of uptake by the students suggests: a) the mapping practice works with no signs of confusion; b) the students position themselves as recipients; c) the mapping practice is a collaborative practice that trades on recipients' orientations; and d) the responses and cues given off are the basis of the teacher's judgment of whether the mapping practice has been properly received by the students; and
- the most innovative aspect of this practice is the involvement of referential (spatial) mapping in connection with procedures for addressing recipients and next turn (co-participant) speaker (or signer) selection within an ongoing conversation.

In summary, in the mapping practice, the signer (i.e., the teacher) localizes a specific spatial direction for each of the co-participants according to the signer's own perspective. This is accomplished through simultaneously combining name-signs with points towards the location in which each participant is seen (imbuing each location with meaning). This is done in a successive manner, establishing one recipient location after the other, in order to include them all. Thus, the interlocutors derive which display of direction refers to themselves and which refers to each of the others, and they respond accordingly or give off discernible, coordinated cues that display they are following along.

Finally, having thoroughly described the mapping practice, the main point of this paper is: once the mapping practice is accomplished and the built space is worked out, the mapping is an oriented-to organization that allows for "pointing-only" forms of reference in addressing and allocating turns, as well as a coherent use of a whole range of directional signs. Thus, the practice provides a solution for the fractured ecology. In the last section, I explicate how, once the directions are carefully mapped, the teacher does not use name-signs again for the rest of the sequence discussed in this paper.

6.3.1. Learning from a practice of interactionally built space

The analysis in the third paper and its findings build on a difference found between groups, and thus this paper does not answer what it was like for all students to participate in the video-mediated environment. However, as I mentioned in the theory chapter (Chapter 4), one teacher used much more pointing than the others. This caught my interest, not only because I soon realized his lessons contributed interesting practices, but also because this particular teacher was known to very skilled at engaging and captivating the students. Seen against the

background of the scarce research on situated classroom practices within deaf education, microanalysis of the interactional conduct pursuing these practices seemed highly relevant. A few older studies have argued for the importance of deaf adult role models and deaf children's need for learning from skilled visual communicators. For example, Erting (1988; cf. 1982) conducted an ethnographic study of three deaf preschool children interacting with a hearing teacher and a visiting deaf adult, and she managed to distinguish clear differences in orientation between the deaf and hearing adults in their interaction with the children. Also, other studies (e.g., Coppock, 1994) have underscored the untapped resources that skilled signed language users represent in unveiling sociolinguistic practices for visual communication. This accords with my own encounters with teachers who are particularly skilled in visual communication and teaching. While being deaf often coincides with being an excellent visual communicator, my contention is that simply being deaf cannot be a full explanation of skillfulness. Rather, I believe there is a need to demystify why some teachers seem more successful than others. I contend that this success must relate to their way of doing things. Dissolving their methods could allow us—and other teachers—to learn from them.

The mapping practice described above seems to be one such exemplary practice, providing a solution for communicating in this video-mediated environment and the “deictic” complexity of non-shared spaces. It also demonstrates more specifically which actions become complicated in this particular environment. While addressing and allocating turns to students as a collective yields little or small adaptations in the way in which directional resources are employed, singling out one among the others requires an adjustment. The reason the mapping practice is a “better” alternative to using name-signs, as the other teachers do, is not only that it allows for more pointing—which, in general, is extremely frequent in signed interactions (Johnston, 2013), but also that the worked out and oriented-to referential mapping provides

participants with new ways of coordinating the locations to which each of them is visibly attending, as well coordinating what they are attending to. Thus, the mapping practice connects to both of the other two papers, and, in particular, this mapping practice could be said to shape the particular “participation framework” (Goodwin & Goodwin, 2004) in this complex video-mediated environment. Interactionally worked out displays of “mutual” orientations of this kind have a temporal organization, and thus constitute an “embodied participation framework that can be sustained over extended stretches of talk and action” (Streeck et al., 2011, p. 2). Such frameworks can facilitate what it is like to participate in this environment, and thus make it easier to follow along, in spite of the environmental constraints.

The analysis in this paper also has implications for orders of mediated interactions, in general, in that it brings our attention to some of the challenges people face when communicating over distance. It contributes to our understanding of the ways in which participants tie situated actions of structures in the environment; that is, mediated environments. In particular, it adds to our understanding of the specific challenges presented by the visual side of conduct in mediated settings that include both video and audio. Also, participants using vocal and auditive modalities must supposedly make sense of their directional (i.e., environmentally coupled) resources in their visual conduct in order to make full use of the video in videoconferencing. Through its inclusion in a special issue on orders of mediated interaction in the journal *Research on Language and Social Interaction*, the contribution of this paper is rather manifest. However, taking an embodied interaction approach, the paper further adds to the “embodied turn,” which, according to Nevile (2015), was becoming established in this journal around the year 2004. Further, by incorporating analysis on signed interaction, the paper widens the empirical basis of the embodied interaction in the material world approach.

6.4. The work to make it work

The main purpose of setting up a distance education program using advanced videoconferencing technologies was to create a new arena for signed language learners to meet and learn in the company of other signed language learners. This arena and the particular environment created was supposed to compensate for the limited chances the students had for meeting and learning in a signing environment in real life. A pertinent question is whether this arena succeeded in doing just that. This question was presented earlier (in section 4.3.1): Does it work? I preliminary provided the answer: Yes, it works! But mainly because the participants worked to make it work.

Bringing together the analysis of the three included papers and their results, we get a sense of what it is like to participate in the classroom activities through signed language interaction in a video-mediated environment. Reading the analyses together, one can see how the participants interactionally worked to make it work; that is, in their ordinary activities, they actively and relentlessly cooperated to organize and achieve intersubjective order, and to build and sustain the interactional space in this particular semiotic ecology. Through sensitivity to the affordances of this particular environment, they adapted to the technology-mediated setting by adjusting their interactional practices in order to overcome the environment's limitations and enable new possibilities, shaping participation frameworks that allowed them to sustain their orientation towards the collective classroom activities.

Through the participants' adjustments, the limitations of the environment (relative to co-present environments) can be overlooked—or “backgrounded,” as some theoreticians would say (cf. Latour, 2005). Communicating in this environment is not the same as meeting and participating in ordinary classroom activities. It is apparent that the participants “intuitively”

knew that what they saw was mediated, but it is equally apparent that they were able to quickly perceive the affordances for communicating in this environment and to use this to their benefit. Thus, we get a sense that they worked towards the goal of ignoring the technology and the fact that their actions and what they saw was mediated. This, however, required quite a bit of interactional work in order to put the technology into service for whatever the participants were doing and wished to accomplish. This tells us that the mediating technology works best if the participants are allowed to forget about the technology (i.e., when it works in an orderly and predictable way).

However, this point should be equally true for the mediating resources employed for languaging. To learn a language is in many ways to forget the language (cf. Steffensen, 2011, p. 188). Being part of a learning and language environment in collectives with others where participation is not constrained by the environment is probably one of the main challenges for deaf students in mainstreamed settings. This study is a reminder that it is not the properties of the mediating technology (whether it be video technology, a physical classroom environment, a hearing aid, or language) that foremost limits or enables participation, but the way the technology is used—as observed in the details of the co-operatively organized interactional work by the participants. Through the observation that in situated interaction we are environments for each other (McDermott, 1976), and treating language as part of the ecology, the ways that participation is organized in a particular semiotic ecology becomes all the more important for ensuring that deaf students have the necessary conditions for participation and learning. Thus, this thesis makes a contribution to deaf education, and learning from deaf educational practice can improve deaf students' inclusion in mainstreamed settings. This thesis is also a contribution to an applied linguistics that seeks a relational way ahead.

7. Conducting microethnographic research

7.1. Selecting a research site and methodology

The methods that researchers choose are a result of the knowledge interest that gives particular explorations focus and direction; that is, they are a result of the questions asked and the very process of asking these questions. There are often tight connections between the researcher and the research subject. The researcher's prior understandings, shaped by his or her personal background, experience, and political views, might influence the research design with respect to themes, methods, and theory and analysis (Tjora, 2012). In the background chapter I clarified my personal experiences of having grown up with signed language at the (margins of) the deaf community, my professional career in deaf education and working with deaf and hard-of-hearing people, and my academic background in applied linguistics. Together, these personal aspects sparked my particular interest in seeking knowledge about the "inside" workings of situations ("the primordial sites," Goodwin, 2000) in which people come together in order to interact (make meaning) using signed language. Already having this interest, when I heard about the pilot project "Borderless Learning," a distance education program that was to be set up by Statped, it was as if the perfect research project—matching my interests—had revealed itself to me. I felt that if I were to do a PhD research project, this would have to be it.¹ Consequently, the choice of method (i.e., the choice of microethnography) was almost a given, from the beginning. As I return to in the following, there are several methodologically gratifying aspects about having had access to the kind of video data that was made available to me through this distance education program.

¹ In Norway, PhD applicants must have a research proposal ready before they can apply for a PhD position.

Microethnographic video-based research, sometimes called “video ethnography” (cf. Knoblauch, 2006), is more rigorously empirical than traditional ethnography, as research claims are grounded in the empirical details of actual behavior that is captured on video tape and made available for scrutiny. While researchers may avoid explicit claims about the generalizability of site-specific findings, microethnographers assume that patterns and practices in one place have relevance to other contexts (LeBaron, 2008). The literally empirical nature of microethnography accounts for why I, in the theory chapter, chose to present the theoretical assumptions of my thesis through an elaboration of the developments of empirical ways of looking using video in microethnographies (i.e., working inductively). These developments were brought together by Streeck, Goodwin, and LeBaron (2011) to form the coherent theoretical framework “embodied interaction in the material world,” which I aligned to in this study. Thus, I have already presented much information on what microethnography is, and I will not present this methodology any further.

Microethnographies take different forms, depending on the nature of the research site and the interests and practices of the researcher. The particular design of such studies is guided by the specific agenda or question the researcher wants to pursue (LeBaron, 2008). Thus, in the following, I outline the particular design I chose. Generally, microethnographies involve five steps (LeBaron, 2008), and these roughly overlap with my study and thus with the chosen sections and headers of this chapter. The steps are presented in the same order as they unfolded in “real life.”

The research site was pretty much defined beforehand through the pilot project “Borderless Learning,” which was initiated at the Andreas Christian Møller (ACM) school for the deaf. It is relevant to point out that the pilot project was not the same as the PhD research project, and

it would have been conducted independently of the research project. Twenty students volunteered to participate in the pilot project. The invitation to participate was made only to students who were already in the part-time schooling program—a service administered by the resource center and the school for the deaf (ACM), which, at the time, provided services to the six northernmost counties in Norway (in recent years, Statped has made some changes to the geographical organization of the resource centers). At the time of data collection, approximately 75 students were receiving part-time education at the ACM school. The 20 student volunteers were organized into five groups, each with three to five students, so that all students in each group would be in the same grade level (i.e., there was one group at each level from 6th to 10th grade). Thus, the students knew each other from their part-time stays, which were organized according to grade levels across the geographical area. All of the students had at least four weeks of part-time stays a year, and some had more (up to eight weeks). At the ACM school, the teachers responsible for the part-time stays were organized into a separate group of teachers, who were dedicated to these students. Four of the teachers in this group were (initially) selected to teach the distance education groups in the pilot project. Each of the distance education groups had one 45-minute lesson each week. The reserved time for this lesson was taken from each student's dedicated time for learning sign language at their local school. This implies that the distance education teaching was supposed to be organized in cooperation with students' sign language teachers, assistants, or sign language interpreters at the local municipality school. Very often, the local teachers would sit beside the student and follow them along to the distance education lessons. The group of distance education teachers dedicated one hour a week to meet, and a half or a full day every so often to discuss and plan the distance education teaching. One project leader and one technician also worked on the project.

A lot of advanced technology was involved in the project, which means that substantial investments were made. At the ACM school, a distance education studio was built in one of the classrooms, and this involved a variety of technologies. Several cameras and displays implied that the teachers had different options when teaching in this setting (e.g., the option of using an electronic whiteboard, a document camera, a PC and a webcam, two big videoconferencing monitors, a control panel, etc.; see Fig. 7.1).



Fig. 7.1 Teachers' studio

At each student's end—that is, in each of the local municipality schools—the students had a personal computer sent to them by Statped, with a 24" computer screen and a high quality web cam (see Fig. 7.2). Installed on the computer was dedicated software that could connect the personal computer to the videoconferencing system through a broadband connection.

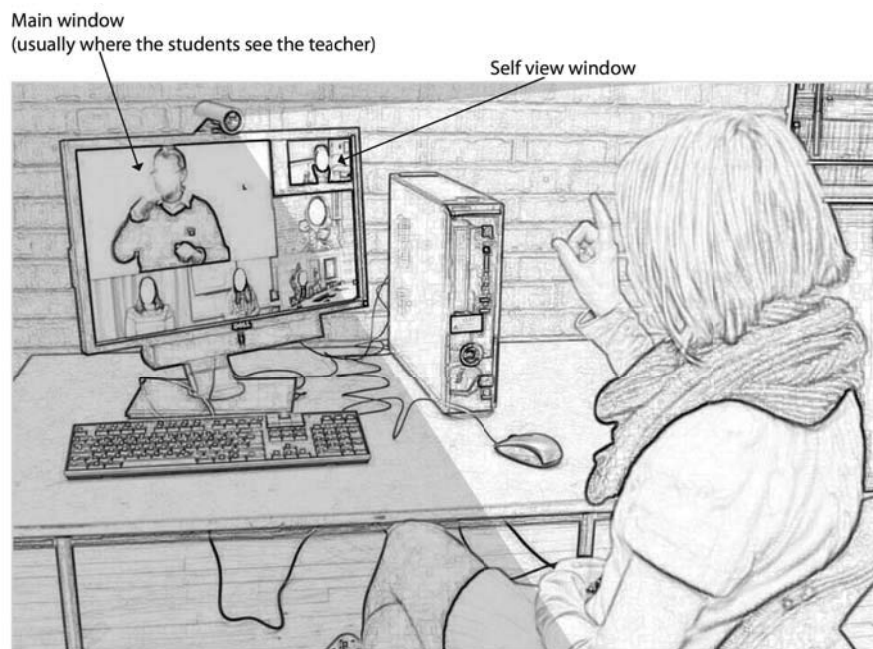


Fig. 7.2 Students' end

The videoconferencing system transmitted video images in high definition, which implies that I had access to high quality recordings for my analyses. Statped's technological infrastructure for data communication (a company-wide video server) allowed the system to transmit video images with exceptionally high quality. Perhaps the most important unit in the system was the multiple conference unit (MCU), which allowed many conference units to participate in a single video conference wherein all participants could hear and see the other participants at the same time. This unit "created" the video image, allowing one teacher and up to five students to see all the others and themselves at the same time. This was an "invisible," yet important, part of allowing the lessons to function as well as they did.

7.2. Collecting data

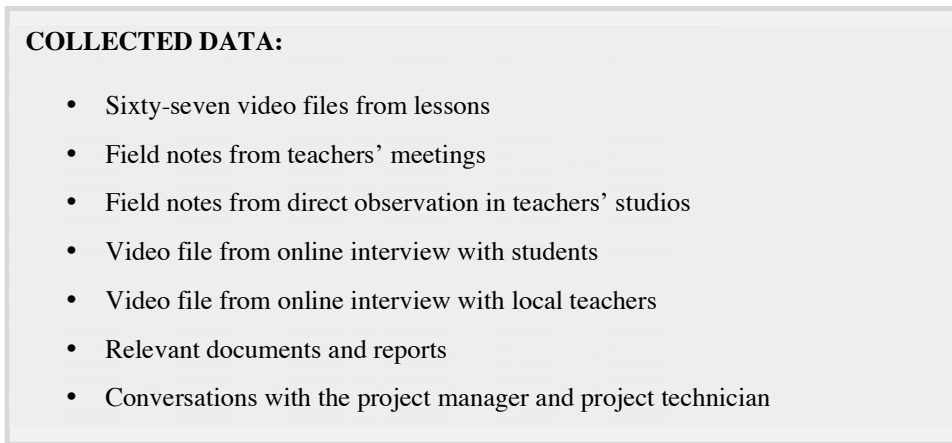


Fig. 7.3 Collected data

Even if many cameras and screens, as well as other technologies, were at work simultaneously, only the transmission from each participant's camera was seen by everybody. Even if the teacher were to switch which cameras were made active, his or her right hand screen (as seen in Fig. 7.1) would, at any time, show what all the participants' web cameras were capturing (including the self-view image of the teacher, which, in Fig. 7.1, is not visible). A recording of the teacher's right hand screen was sufficient for my analysis of the lessons. Thus, for recording, the right hand screen signal into the monitor was tapped into, and, on the fly, converted by a streamer and saved into an .mp4 computer file.

Ethical considerations sometimes shape data collection. In the data collection for this research project, it was important to be very clear that two separate projects were going on in relation to the distance education program: one conducted by Statped (i.e., the "Borderless Learning Project") and another that was my PhD research project. Even though I had previously been employed by Statped (however in another department), I was now employed as a PhD

candidate by the university and I could not just go ahead and collect the data I wanted. Due to ethical considerations, the pilot project managers and I had to be sensitive to the possibility that the Statped project volunteers might not want to participate in the research project. Naturally, I had to get consent from the participants. Generally speaking, when conducting research, one must access the research field. In order to gain access as a researcher, one needs to establish some level of trust. Because research on signed language interactions depends on the use of video recordings, it is important for the researcher to establish trust that the video data will be treated properly; otherwise, the researcher will be unable to obtain participants' consent. Because I was already known to the Statped administration and management, and because there were prior aspirations for the distance education project to be researched, it was easy for me to get approval for the necessary access from Statped. Through close dialogue and on account of the content of my plans, I was given oral permission to go ahead.

Because the students in the project were under age, I had to receive consent from their parents. Due to the circumstance that I had previously been responsible for the sign language training program for parents (almost all hearing parents of full-time and part-time students are included in a sign language training program at the resource center), I had already met with most of the parents of the students who were offered participation in the distance education program. Even if I did not know which students were included in the pilot project, I was fairly sure that I was already known to their parents. As a former representative of Statped, I could reasonably assume that I had the benefit of some level of the parents' trust. However, this trust could be a double-edged sword, as it could cause a situation wherein the parents felt it would be more difficult to decline participation in the research project, even if that was what they really wanted. Thus, it seemed wise to take some measures in order to stress and clarify the separation of the projects. Consequently, I worked out an information sheet, including a

written consent form on NTNU letterhead paper, in which I informed parents that I did not know who was included in the pilot project, and that I would not get this information unless the parents gave their consent. Further, Statped administered the dispatch, which, in addition to the information sheet, the written consent return note, and a stamped envelope addressed to Statped, included a cover letter explaining that the request was being made on behalf of an NTNU research project. In a separate dispatch I created an information sheet that was sent to the principals and teachers at the students' local mainstreamed schools, since they also were involved, despite not actively participating in the research project.

I elaborate on the procedures for obtaining informed consent because this had some consequences for the practical work of collecting data. Statped can generally be said to have strict routines with respect to the way in which they deal with sensitive information (e.g., they are forbidden by Norwegian law to reveal any information about the recipients of their services). They had already, on their own behalf, collected consent from all the parents for the internal use of photo and video recordings in relation to teaching activities. The recruitment of students to the pilot project had also necessitated parents' signed consent. This meant that the distance education project had permission, independent of the research project, to record the distance education lessons. Consequently, in agreement with Statped, we decided the most practical way of solving the issue of recording the lessons would be to have the project technician do it, in addition to administering the saved video files of the recordings. Thus, the formulation of the request in the information sheet to parents said that if the parents (and students) were to sign the informed consent, they would give the technician permission to record the lessons and provide me access to recordings wherein all the participants had signed their consent; however, I would only have access to those recordings. This procedure seemed excessively complicated, but it was necessary for me to be sensitive to a potential feeling of

an obligation to give consent. Nineteen out of 20 parents signed and returned the consent form, which meant that the technician gave me access to recordings of four of the five groups, as well as recorded lessons from the fifth group when the student who hadn't returned the consent form was not present. In total, from the little over 100 lessons in the second phase of the pilot project (which lasted from November 2011 to June 2012), I was given access to 67 lessons of approximately 15 to 55 minutes each.

In the research project, I followed and conformed to the guidelines of the National Committee for Research Ethics in the Social Sciences and the Humanities (NESH), and the procedures for use of video, as reported and approved by the Norwegian Centre for Research Data (NSD). Thus, I was obligated to store the data safely—that is, on a separate external hard drive that was locked away when not in use. In the project, it was not possible to conceal the fact that the participants had hearing loss; but beyond this, I did not find it relevant to collect any personal data, including data relating to the kind of hearing loss the students had. Because persons with hearing loss are, according to the NSD, considered members of a “vulnerable group,” I had to be careful to anonymize information that could have identified participants. I come back to the way I dealt with anonymizing later in the chapter. I was obliged to delete all video data not anonymized after the project was finished.

In comparison to the most usual situation for microethnographers, wherein they bring their own video recording equipment to research sites, I had no influence on the number, kind, and placement of the cameras (cf. Heath, Hindmarsh & Luff, 2010, pp. 37–47). During the lessons, it was the teacher who, at any time (via the control panel), could control which camera in the studio would send its signal to the videoconferencing system. This, in turn distributed the video stream to the students (i.e., in this way, the teacher controlled what was

recorded). However, this too—together with occasional examples of students creatively grabbing their web cameras in order to film something in their surroundings—was interesting information, as it showed me what the participants saw as relevant for their co-participants (and thus me), and what their attention was oriented towards. This is also true of the many examples throughout the data in which the teachers requested that the students adjust their camera angle (e.g., as mentioned in the second paper).

Because of the chosen interface of the videoconferencing technology in the pilot project, my data always showed one big window consisting of a self-view window (i.e., the teacher's) and up to five smaller windows. As mentioned, the MCU made this video image, and while microethnographers often must be careful to synchronize multiple cameras, the MCU took care of this for me and ensured that the video streams were highly synchronized. A clear challenge for me, and as dealt with in the second and third paper, is that the exact constellation of the window was different for each of the participants; I had to constantly remember this point.

One should keep in mind everything that was not included in the recordings. Also covered in all of the papers is the fact that the constellation of windows could change during the lessons, and to prevent this from happening the teachers made sure that all of the students muted their microphones during the lesson. This also meant that the recordings did not contain sounds at each end. The included images above (Figs 7.1 and 7.2) might also provide an impression of what was not included in the recordings. For instance, in the teacher's studio a whole range of technical equipment fell outside the camera angle. The technician—who in the project period was present at all of the lessons—had his work desk with two computer screens inside the teacher's studio. From his position, he could surveil the Internet traffic, determine the

interface that the students were seeing, and take over control of the students' computers and see how things were appearing on their screens. In most cases, I had little information on what was outside the camera angle at the students' ends.

In summary, my video data allowed me to access the content of the teachers' (right hand) screen. Thus, the video files that I saved on an external hard drive displayed the captured content from all of the (up to) six (web) cameras that filmed each of the students and the teacher, and which was synchronized by the videoconferencing system. As I already pointed out, because the MCU made the constellations of images different at each end, I cannot completely say that I saw "the same" as the students—even though the content of each video window would have been the same. Another factor I kept in mind was that instances of reduced broadband at one of the ends could cause perturbations in the image or lead it to freeze, though not at the teacher's studio end. Fortunately, the videoconferencing system generally worked fine. I chose to go through this in detail, so as to be clear on the point that the collected videos were not representations of the "realities" experienced by the participants, nor do I have recordings of all that went on in these settings.

Microethnographic research does not rely on video data, only. Surely, video recordings "provides empirical grounding for interpretive claims, captures subtle details of interaction that analysts can review and others can verify, and helps researchers attend to both vocal and visible phenomena socially orchestrated" (LeBaron, 2008, p. 3). However, also "participant observations, field notes, interviews, and field recordings (audio and video) are all considered premium data for microethnographic research" (LeBaron, 2008, p. 3). Additional ethnographic data was collected through my attendance at the distance education teachers' weekly meetings. There, I made field notes, mainly taking down their concerns in their

dealings with the practical side of planning and teaching in this setting. I was, on several occasions, also invited to the teachers' studios during their teaching, where I took notes on things I found noticeable. By the end of the recording period, I had one interview with one of the student groups (see Appendix 4) and an interview with the teachers of this student group (Appendix 5). I also collected and read various documents and reports that were relevant to the distance education project. Throughout, I had several conversations with the project manager and the technician to discuss questions that had emerged throughout the period. However, all of these sources of data were never more than simply support for my interpretations of the video data, which were my main data source wherein my findings were grounded.

7.3. Analyzing the video data

I received the video files in a format that I could work with directly, without further digitalization or conversion. This meant that I could start handling the video data the moment they were handed over to me. Since the collection period was stretched over a six-month period, I received some of the data at various intervals, and thus was able to start reviewing the data before the collection period was over. The process of analysis started once the data handling began. This was in contrast to the usual view and practice in conversation analysis, wherein opinion holds that analysis should not start before language use is thoroughly transcribed. As pointed out by Heath and colleagues, this practice is difficult to pursue with video data (Heath et al., 2010).

First, I had to find a way to deal with the large amount of data. Because of the information density in video data, it is difficult to gain an overview of everything documented (Heath et

al., 2010). To handle the large amount of data when using video, Heath and colleagues (2010) recommend that researchers make use of the particular advantage of video data; that is, the possibility of confronting the same data several times with a range of interests and analytic commitments. Recordings can be watched repeatedly, each time with a new focus and in a new way. Heath and colleagues (2010) propose several steps for reviewing video material, and, as these steps represent various stages of study, it is helpful to differentiate them here:

- Preliminary review: cataloging the data corpus
- Substantive review of the data corpus
- Analytic review of the data corpus

Even though my handling of the data did not neatly follow the stages proposed by Heath and colleagues, my manner of dealing with the data can also be described in three steps. However, admittedly, at times they overlapped with each other, as I did not always have the patience to finish one step before moving on to the next. It is, however, not unusual to devote extended time to analysis in earlier stages of data review.

The first review of the video data was for cataloging aspects of the activities and events, and, in this way, getting an overview of the data. I was handed over the data in chunks at several intervals, and I was able to start looking through the data immediately after receiving the files. In this early stage, I used QuickTime video player and Microsoft Word. When saving the video files, the technician included the group recorded and the time of recording in the file names. In addition to writing down this information, when going through the videos I created a Word document to list the files. In this document, I added information about the length in minutes, the participants present, and the themes covered in the lessons. In addition, I also

created a Word document for each video file, in which I wrote down sporadic notes as I watched the video for the first time. This quickly provided me with a preliminary catalogue of the video data and an overview of the material as it was handed over to me.

Because it is difficult to scan large parts of video data, various software can be of great help. I soon came across the software “f5transkript,” which I downloaded from www.audiotranskription.de. I used this software for the next step, which was a more substantive review of the corpus. The “f5transkript” software allows users to open and watch a video alongside a linked text document. The text document can be saved in Word format, and the great advantage of the software is that it makes time stamps for each “chunk” of video that users add notes to. Clicking on a time stamp takes the user to the exact place in the video about which a note was made. Using this software, I began to notice various “fragments” that I found interesting or noteworthy. This process can just as well be referred to as making content logs of the video data (cf. Jordan & Henderson, 1995). At this stage, I also started to find similar phenomena across the video files from each of the lessons, and thus started to make lists of various noteworthy (sometimes recurring) candidate instances across the data corpus. On the basis of this work, I also started to break up the large video files from each of the lessons into smaller video files. Using the software “VLC media player” from VideoLAN, I was able to save collections of video files of similar phenomena. Thus, I had already begun the next step of performing analytic searches of the data corpus.

As mentioned earlier in this thesis (section 6), each of the papers represents different modes of analysis and ways of approaching the data. The process that ended in the various findings in the papers started in this step of reviews. Early on, I saw that my analysis could benefit from more focus on one of the classes, as I could see that certain issues and phenomena were

developing and related to the same classes, over several lessons. I therefore decided to pursue a more dedicated focus on one class over the others. I followed one class of 15 (18 lessons/video files, which I started to systematize and review more thoroughly, and which I started to transcribe. Whereas there were many other interesting candidate instances and fragments (e.g., series of sequences showing how the students gradually became more familiar with the mediated environment), I discovered interesting instances of identity talk in this group. When I later followed-up on the identity negotiations in this class, I made a detailed transcription (57 min (+54 min less detailed)) of everything relevant to the particular “friendship” teaching plan explored in the first paper. Fig. 7.4 shows the distribution of these lessons.

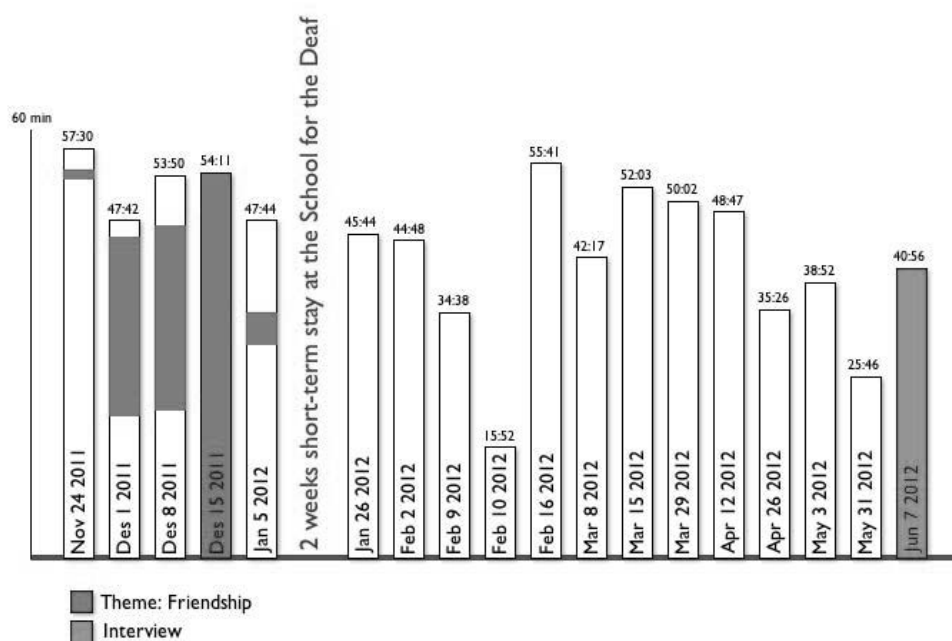


Fig. 7.4 Distribution of data: “friendship” teaching plan

The second paper not just investigated something other than the first paper, but it also represented a different way of exploring the data. In the theory chapter (Chapter 4), I mentioned how the research question of the second paper was initially triggered by discussions among the teachers pointing out that teaching in this setting was experienced as different than teaching in ordinary classrooms. When I logged and searched across my video data I started to find phenomena across the video files from each of the lessons, and made lists and collections of various candidate instances across the data corpus. Many of these instances were relevant to the issue that had been discussed amongst the teachers, which I had begun to sporadically transcribe. However, it was only after I combined the teachers' claims with theoretical assumptions (as mentioned in section 6.2) that I was able to go through my collection anew and find that many of the observations I had made fit well with, and fell into, two "groups" of adapted strategies and practices. Thus, I could more systematically decide which fragments to select for more detailed transcription and analysis. It should, however, be noted that while the first part of the process of making collections was quite similar to the process in conversation analytical work (cf. Heath et al., 2010), the way I ended up using the collection was not. In conversation analysis, the point of making collections is often to investigate similar extracts across various contexts to find evidence of "context-free" practices (cf. Egbert, 1996) and perhaps deviant examples to support the findings. The way I ended up using the collections was to find combinations of practices that could be said to all be related to a more encompassing professional teaching practice of orchestrating (visual) attention.

Compared to the first and second papers, the third paper demonstrates yet another mode of working with the video data. As mentioned in the theory chapter (as well as in section 6.3.1), the research question in the third paper had—much like the second paper—its origin in the

discussions among teachers, and the discovery of a curious case of one teacher using pointing much more than the other teachers in the video-mediated environment. Because this teacher's practices emerged very early on, the particular fragment demonstrated in the third paper was also one of the earliest fragments I transcribed in a detailed manner. By checking with the preliminary review documents as well as the content logs, I could easily explore the other lessons led by this teacher and see that he initiated the investigated practices in all of the seven lessons of which I had recordings. Thus, I also transcribed and analyzed several other instances of the practice explored in the third paper.

When watching the video data carefully and repeatedly, sometimes candidate instances such as this teacher's "jump out" as obviously noteworthy; but usually, the significance of various instances emerges slowly, through examination, as with the previous two papers. I also, on several occasions, brought material to "data sessions"; this was usually very helpful for my analyses, and allowed me to progress through other participants' observations and immediate evaluations. However, it was my own responsibility to ensure that the research claims agreed with what could be seen in the video data.

7.4. Transcribing key moments of signed interaction

In the beginning of the transcription process I used f5transkript; however, after some time, I started using the transcription tool ELAN. ELAN was developed at the Max Planck Institute for Psycholinguistics in the Netherlands. The software is specially-designed for transcriptions of audiovisual recordings and makes it possible to make, edit, visualize, and search transcriptions for video and audio data. ELAN offers a horizontal transcription that allows for accurate mapping and juxtaposition of visual actions' internal positions. This was very useful

in my transcriptions of both the signed language and other embodied actions. Several tiers could be made for different types of actions, and the marked time intervals for actions were tied to the video and could be played over and over, for the purpose of scrutiny. Heath and colleagues (2010) distinguish between transcripts that are developed for use in analysis and those that are developed for use in presentations. This implies that the transcription process is viewed as part of, and inseparable from, the process of analysis (see also Mondada, 2007). An important point to underscore is that, during analysis, video data should never be left; embodied multimodal analysis cannot be satisfactory made from only transcripts. This, in my view, is even more important in the analysis of signed interaction. I think that a (readable) transcript in any form can never fully justify the richness of signed interactions. What I appreciate about the way in which Heath and colleagues (2010) solve transcription is that, even though they are aware that there is more (and perhaps even crucial) information “present” in a fragment, it is not always necessary for all of this information to be put down in the same transcription. In this way, they stress that transcriptions not only allow researchers to display various aspects of an activity, but they are also an important resource that researchers can take advantage of when observing actions, in order to build a preliminary understanding of the actions the participants participate in, and what is special in these actions (Heath, 2010). Thus, they allow themselves to transcribe “just” the talk in the first round, and to use this as a resource when elaborating on how embodied and visual actions are also intertwined as a whole. In my opinion, this procedure solves some of the particular challenges connected with transcriptions of signed interaction.

In spite of a growing recognition of signed languages as real languages, there are still no commonly established standards for transcribing signed interaction. However, in academia, there are many ways of displaying signed languages that often consist of combinations of text

in the form of gloss translations (i.e., glossed words) of grammatical patterns and/or photographs, drawings, or frame grabs from video footage (Rosenthal, 2009). In my transcriptions, I typically took as a starting point the established practice (Johnston, 1991) of glossing signs in the interactions as a kind of bold transcription. This process implies that I searched for English words in their uninflected forms that were supposed to represent the manual signs in the signed language. Admittedly, this was not a neutral process wherein I “just” wrote down what the participants said in the video footage. I am well aware that glossing the manual parts of a sign is far from a complete form of displaying what was said in signed languaging, since much of the grammar is distributed to the non-manual parts of doing signs (among other “elements”). In glossing, there is no information on what the glossed signs actually look like, and this is a clear drawback. It is due to my knowledge of Norwegian Sign Language that I could interpret what the participants were saying/doing and thus add meaning to their bodily movements and, in this way, transcribe. This knowledge also made it possible for me to later read the transcriptions. In spite of the limitations of glossing, I found support, for instance, in Johnston (1991, p. 4), that this is still a viable procedure. As he points out, there is no sense in transcribing a language—be it spoken or signed—as a purely physical action without concern for the meaning or the context, because what “appears” in the data will anyhow need to be connected to its meaning and context at some stage. The benefit of glossing is that it makes possible, in a simple way, the display of signed language in writing with a relatively short list of conventions and symbols. Equally important, it allows for a simple visualization of the sequential organization in signed talk and reveals phenomena such as breaks, overlaps, and pauses. This is important, because the fact that participants’ actions are sequentially organized is one of the major claims of conversation analysis.

It was, however, also necessary to find ways of transcribing what else was visually going on in the video data. In more detailed transcriptions, it became important to write down more of the semiotic resources involved in building utterance actions, in order to capture the interactional work they may have taken part in accomplishing. In particular, it was important to map where the actions started and how long they lasted. This means that I found it necessary in some instances to pin down the phases of signs, such as: the preparation phase; the prestroke hold; the stroke; the post-stroke hold; the retraction; and the hold (developed to map gesture phases (as used by, e.g., Kendon, 2004; Bono et al., 2014)). The aim was not only to reveal the reciprocal dependencies between signs and other embodied actions in meaning-making, but also to show how they related to other participants' actions, and to better understand the participants' own orientations.

7.5. Describing and reporting the research findings

In the papers, video-based claims were supplemented by ethnographic insights and evidence from participant observations, field notes, interviews, and relevant documents. The microethnographic methods were fundamentally interpretive. The research I conducted was more rigorously empirical than traditional ethnography, as my claims were grounded in raw data that readers can generally see and scrutinize for themselves (cf. LeBaron, 2008). Compared to much microethnographic work, which relies on methods from the conversation analytic tradition, I took the liberty to expose fewer fine details and fully worked out transcriptions than what one might expect (particularly in relation to the first and second paper). However, I contend that there must always be a balance between the research question asked and the audience for whom the research paper is written.

As I already touched upon, analysis of signed language interactions poses several methodological and conceptual challenges. In preparing to present the recorded material from the video-mediated signed interactions, I had to choose how to transform the data into a more permanent form and a form that, for the most part, would be read by people who knew little about signed language. In presenting fragments, I chose a similar style to that of all of the papers—to which I found inspiration in works and instructions of Charles Goodwin. In the transcriptions, I generally combined and adapted the most basic transcription principles and conventions from conversation analysis with conventions from signed language linguistic research for glossing manual signs. Various other solutions have been proposed, including the addition of tiers in the transcriptions (McCleary & Leite, 2013; Groeber & Pochon-Berger, 2014) and the display of annotated gesture phase units (McCleary & Leite, 2013; Bono et al., 2014). However, detailed annotation of the interaction seriously challenges the readability of the transcripts (see how, e.g., Bono et al. (2014) put the transcription sideways on the page to make it fit). However, this concern is commonly shared with researchers working to incorporate multimodal and embodied aspects of interaction. While I see the benefits of sharing detailed transcripts with the reader, I instead chose to follow the recommendations of Goodwin (2001, pp. 160–161) and Heath and colleagues (2010, pp. 70–73) to keep an eye on other ways in which these distinctions could be presented to readers as clearly and as vividly as possible. Thus, in the presented transcripts, I used various ways of combining glossing with sketched frame grabs and various symbols. Significant gestures and other visual actions that could not be glossed were placed within parentheses. In order to increase readability, and as an aid for me to remember how the signs had been actually performed, I found it practical to add a translation in written English, noting the content with equivalent meaning. In certain instances, as for “compensating,” I provided detailed explications of the actions in the running text.

TRANSCRIPTION SYSTEM (from third paper)	
CAPITALS	gloss for manual signs
(action)	salient visible actions, not easily glossed
HAND_OVER	underscore, when more glosses are needed to cover the meaning of the sign
+ xxx	adds information about a salient modified aspect of a sign (e.g., a direction)
::(x.x)	indicates a sign is prolonged, as in holds; parenthesis shows duration

Fig. 7.5 Transcription system

When I transformed the video data into a sequential or a horizontal temporal representation of the visual interaction, information that made recognition of participants possible was not incorporated in the transcription. From the beginning, I never used the participants' real names, and because there was usually only one student with hearing loss in each of the local schools, perhaps also in the whole municipality, it was important for the names of the schools, municipalities, places, and participants to be anonymized. Such information was not relevant to the way in which the students and teachers proceeded in their interactions. Presentation of video clips in connection with the written papers was ruled out because I promised the participants full confidentiality. For the same reason, I also manipulated the frame grabs from the footage and converted them into sketched drawings using the software PhotoSketcher, in addition to blurring out participants' faces using Adobe Photoshop.

No matter what methods a researcher decides on, the researcher has great responsibility for the portrayal of the research participants. Rosenthal (2009) reviewed a range of transcription practices for presenting signed languages and pointed out that the various ways transcription is performed can have far-reaching ethical consequences. Transcriptions are public

presentations of signed languages, and even if academic papers are usually not directly involved in political decisions concerning deaf people and sign languages, they may influence the conception that outsiders have of the language and its users. When a researcher is unaware of the incommensurability of languages, he or she may be in danger of presenting signed languages in a more simplistic way due to the evidently limited ways of presenting them on paper. This points to my responsibility as a researcher for the unintentional consequence of my decisions on how to present the reality I explored. The presented figures, representing fragments and images from the data, should always be read in the (written) context in which they appear. Thus, I hope to have lived up to my responsibilities.

8. Conclusion

The three papers in this thesis are empirical investigations of recorded video-mediated distance education lessons wherein remote students separately connected online to learn signed language in the company of other students. Taking an embodied interaction in the material world approach, this microethnography explores identity negotiations, the professional practices of teachers with expertise in visual orientation, and the addressing practices of one particular teacher, as well as how the participants adapted to the video-mediated environment. Each of the analyses takes a different scope of inquiry and contributes to a specific academic discourse.

The first paper explores a specific “friendship” teaching plan that was described by the participants as successful and seen as consequential for identity development. The second paper brings together collections observed throughout the data of various adjusted practices and strategies employed by the teachers, suggesting that teachers’ orchestration of students’ attention is a crucial skill in mediated settings. The third paper scrutinizes a conspicuous mapping practice initiated by one teacher that seems to have provided a solution to the deictic challenges of video-mediated environments. Reading the papers together as one contribution, it is possible to get a sense of what it is like to participate in classroom activities through signed language interaction in a video-mediated environment.

The first paper provides several implications for conceptualizing identity development, inclusive education, and the role of technology in human sociality. Supporting the widely accepted conception that identity is accomplished in mundane, everyday situated interactions, the paper suggests adding to this understanding that the typical and recurrent ways in which situated interactions are organized in different environments contributes to stabilize certain

identities and destabilize others. Several sources indicate a common consensus that it is difficult for signing deaf students in mainstreamed classroom settings to fully make themselves known to others, and to negotiate a meaning of being deaf that does not involve them being disabled. The investigated “friendship” teaching plan suggests that if great care is taken in shaping participation frameworks, the technology can be employed to let hearing friends glimpse more sides of their deaf friends. By meeting their deaf friends among a collective in which participation requires visual communication skills, the identity of deaf can be re-negotiated with the identities of “expert,” “leader,” and “skillful” also when in company with their hearing classmates. This reverses the roles of “disadvantaged”; however, the investigations suggest that if the participation is well-organized, the hearing friends will be enthusiastic about participating in, and experiencing, their friends’ visually-oriented space—or deaf world.

The implication for inclusive education should be clear. It would simply not possible to bridge the gap between deaf and hearing students, as demonstrated through this teaching plan, if deaf students do not have the opportunity to develop their signing skills and positive identities in a “segregated” environment. Calling a mainstream classroom setting “inclusive” is supposed to mean that all students can participate on the basis of their own premises. The question to ask in each mainstream classroom setting, then, is whether it really, and fully, offers equal participation in joint activities, when sociolinguistic practices between deaf and hearing students are largely unshared, and deaf students’ access to audiological participation is constrained. The paper gives grounds for cautious optimism that it might be possible.

It was not the properties of the technology that made the “friendship” teaching plan a success, but the ways in which the technology was exploited. The cooperative crafting of the

organization of (successful) participation, sustained by simultaneous co-occurring influences (the design of the technology, the display of the participants, and the choice of teaching formats), provided a participation framework that stabilized the space for friendships across different primary modality orientations among the students, and for a simultaneous display of a positive deaf identity. This suggests that the technology's potential reveals itself foremost in the ways in which it is employed.

The second paper shows how signing teachers and students achieved joint attention in the new and challenging environment. The teachers adapted their practices, which could be seen as belonging to two strategies: a) establishing and sustaining a shared definition of the situation; and b) coordinating (including monitoring and facilitating) the continually shifting locus of attention. The participants adjusted their practices for greeting and aligning their body posture, employed resources such as hand raising, using name signs, turn-initial waving, and turn-final holding—and ensured that visible recipient behavior and cues were used. Together, these strategies and practices played a part in the teachers' orchestration of students' visual attention and orientation, which constitutes a critical skill in the professional practice of teachers when adapting to new environments like the one studied in this thesis.

The way in which the teachers demonstrably dealt with the multiparty mediated environment has implications beyond deaf education. The investigations show that, in visual communication, it is not sufficient to see and be seen. Practices that validate that what is seen is also seen by others suggest it is necessary to gain access to interlocutors' interpretive perspectives (i.e., to know something about what or whom the interlocutor is looking at) in order to communicate. This is sometimes challenging in mediated settings.

The teachers (and students) demonstrably oriented to a much more complex range of multimodal cues than provided by talk, alone. Besides supporting the “logocentrism” critique, the investigations in the paper support theories holding “other-orientation” as a fundamental principle in human communication. The fact that the studied teachers adapted what they usually did in order to ensure that ongoing interaction was accessible to all students in joint activities (and the manner in which they did this) suggests that meaning-making (or sense-making) should not be based on what the producer does, but on what resources the interpreter can recognize from the information the producer reveals. This represents a fundamentally different social (i.e., dialogical or ecological) semiotics than most “Western” social semiotics.

The third paper investigates the practices that were used to address recipients in signed interactions in the videoconference-mediated distance education classroom. It is shown how, in one teacher’s class, addressing and next speaker selection were largely accomplished through a practice of referentially mapping recipients in the visual space. Once this mapping was established, it created an oriented-to organization that allowed for “pointing-only” forms of reference, as well as coherent use of directional signs. Multilocation video-mediated environments pose challenges for interactional conduct—for instance in the way in which speakers cannot meaningfully single out one participant among others through only gaze or pointing. The paper demonstrates how the referential mapping was an initiated procedure that allowed the teacher to meaningfully single out (i.e., address or select) individual students among others; thus, it served as a solution to the “deictic” complexity of the non-shared space. The fact that this teacher initiated the practice demonstrates his sensitivity towards the ways in which utterances would be received by the recipients. It also shows how the interactionally built actions were environmentally designed for recipients who are not “really” there. The way that the mapping practice was accomplished shows—through the students’

visible embodied orientation to the teacher's elaborate pointing practices—that it was a thoroughly collaborative constitution that gave participants a shared sense of the interactionally built space.

The mapping practice provided participants with new ways of coordinating the locations that each of them was visibly attending to, as well as what they were attending to. Thus, the mapping practice contributed to shaping a participation framework that allowed for more recipient-designed utterances, which I suggest engaged the students to a greater extent and was positive for student learning. Studying the practices of fluent and experienced teachers like the one investigated in this paper can contribute to a better understanding of deaf education and good learning environments for deaf students. However, studying the way in which signers deal with the specific affordances offered by visual means has relevance beyond both deaf education and mediated settings. The paper contributes to our understanding of the ways in which meaning-making is coupled with the environment. Specifically, the paper demonstrates that, in order for gaze and pointing to be meaningful resources for addressing and allocating turns, the space must give sense to direction.

The compilation article provides further context for reading the three included papers, suggesting that there are three closely connected lines of organizational challenges within deaf education that are all touched upon through this distance education program. These, I suggested, pertain to the fact that teaching deaf students requires specialized skills and knowledge (the competence problem); that teachers with specialized skills and knowledge are not always easily accessible (the distance problem); and, finally, that the boundaries that define levels of hearing loss and the qualifications for access to teachers with specialized skills and knowledge are blurry (the deafness level problem). Against this background, I

presented the current model for deaf education in Norway, in which distance education is integrated. Next, I presented a thorough exposition of the theoretical approaches I aligned with in this thesis and suggested that video-based microethnography taking an embodied interaction in the material world approach is particularly apt for analyzing signed interactions in a video-mediated environment, and fits well within the epistemic applied linguistic culture I was “brought up” in. In discussing previous research, I put most weight on research on deaf education, which has rather consistently pointed out that deaf students struggle, both socially and academically, in mainstreamed settings. This provided additional significance to my study, as all of the participating students were mainstreamed students who were the only deaf students in their respective local schools. This study improves our understanding of how deaf students participate in learning environments. Further, I pointed out that microethnographic or ethnographic studies of classroom interactions within deaf education are scarce, and that studies of video-mediated signed interactions within deaf education classrooms are close to non-existent. In the subsequent chapter, I provided a reading of all of the analyses and results and suggested that, when read together, the analyses provide rather rich descriptions of what it is like to participate in classroom activities through signed language interaction in a video-mediated environment (the main guiding question of this thesis). I further suggested that the analyses and results demonstrate the extensive interactional work made by the participants in order to make the technology-mediated environment—which is quite different from a co-present classroom situation—work, as if it did not matter that it was, in fact, mediated. In other words, I concluded that the students worked to make it work. I took this point further, suggesting that the ultimate goal of learning a language (i.e., signed language) is to forget the language. Finally, I clarified the methodology and data used in the thesis. Read together, the three individual papers and the compilation article contribute to the field of applied linguistics through a relational approach.

The research methods of microethnography are fundamentally interpretive. As pointed out earlier, what is micro in these studies are the cultures of the investigated communities of practice. Inductive processes seldom provide results of the kind that can be used to answer big questions such as what we can do to remove the social struggles that deaf students experience, or their lower average academic outcomes compared to hearing peers. Interpretive and inductive research might be said to represent a slow process. However, building research on claims that are grounded in video data—which readers can see and scrutinize—there is great potential for researchers to build further on the findings. This implies that it will be possible to gradually build a more thorough understanding of *why* it is (Simonsen et al, 2010) that some deaf students' outcomes are significantly lower than those of other students (see section 5.1). As my exposition of developments in microethnography suggested (see Chapter 4), this research tradition is strong in identifying particular phenomena and providing procedural transparency, which means that induction can give way to abduction and allow for the emergence of robust theoretical frameworks such as embodied interaction in the material world (Streeck et al., 2011). More video-based microethnographic research is needed in deaf education. Applying this framework to microethnographic research on deaf education could potentially unravel and demystify deaf education practice.

Through the research presented in this thesis, and through the three included papers, I have contributed research-based knowledge to the development of deaf education practice in new settings. I have contributed to an applied linguistics that seeks solutions for language-related real-life problems in the quest for a more thorough understanding of the complexity of what is involved when students and teachers connect online to interact and learn (signed language). I have also brought empirical analyses of deaf education practice into academic discussions

concerning issues of identity, professional practice, and orders of mediated interactions—all important aspects of human interaction and sociality.

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Part II

9. Identity Negotiations in a Visually-Oriented Virtual Classroom²

“All I really want to do

Is, baby, be friends with you.”

Bob Dylan – *Another Side of Bob Dylan* (1964)

9.1. Introduction

This chapter explores some of the identity negotiations performed by signed language learning students in a videoconference classroom—that is, in a video-only mediated environment (VME). Seeking to better our understanding of the subject formation processes by which people come to identify and ascribe membership to the deaf³ community, the focus in this chapter is not on being deaf, but on becoming deaf (culturally). Identities are inevitable, but the most prevalent of a person’s multiple intersecting identities, and what these come to mean, constantly shift across various discourse contexts. Bringing signing students (i.e., students who are deaf), enrolled in local municipality schools, together in a distance

² The paper is published in Bagga-Gupta, S., Hansen, Aa. L., & Feilberg, J. (2016), *Identity (Re)visited and (Re)imagined: Empirical and theoretical contributions on embodied communication across time and space* (chapter 12). Springer.

³ I use the term “deaf” in this chapter to refer to persons with any degree or kind of hearing loss consequential for participation in “audiologically oriented” (Bagga-Gupta and Holmström 2015) learning activities. While I am sympathetic to the deaf/Deaf distinction used by many researchers, is not commonly reflected in Norwegian or Norwegian Sign Language usage (the languages of the data). Rather, I use “deaf” both when referring to individuals or groups of people with “hearing loss” or “hearing impairment” *and* when referring to people who are members of the deaf community, belonging to a (signing) linguistic and cultural minority (which implies some “deaf” who are fully hearing). I also avoid using the audiological categories (mild, moderate, severe, and profound). Neither do I use the more widely accepted “deaf and hard of hearing.” Exceptions are made in cases when I cite or otherwise refer to other researchers who apply any of the terms noted above. I choose this practice because my interest is not in being deaf, but in becoming deaf (culturally), and the aim of the study is to explore the participants’ own identity negotiations. Thus, it is important to avoid assigning them unsolicited membership categories. However, because the study investigates a school setting, the most relevant category is “student”; this means that “deaf” often comes with “student.” I am well aware of the “non-handicapping language” convention of always putting the impairment after the noun. However, since the topic of this chapter is active encouragement of the positive aspects of developing a deaf identity, such a practice can actually reinforce the idea that the “differently abled” category is always undesirable. Therefore, I often write “deaf students,” stressing that this does not imply that deaf is a more (or less) important category than “student” (or “boy,” “son,” “ice hockey player,” and so on), but that this is always situational. However, since the VME is muted, it is for the studied virtual classroom interaction simply not relevant if and how much the students hear. Thus, I refer to the participating students as “signed language learners,” because this refers to the purpose of their participation in the distance education. While all students in the dataset were deaf, kudas (kids of deaf adults) who are fully hearing also participate in the distance education program. I would also like to add that not all deaf students use signed language or are particularly skilled in visually-oriented ways of communicating.

education program can strengthen their deaf identities. However, this chapter investigates how a simple exercise had a powerful effect on what deaf identity meant, also vis-à-vis deaf students' (hearing) non-signing friends in their local classes. Through working on a "friendship" teaching plan, which involved the signing students inviting their hearing non-signing friends from their local classes to the VME, the students re-negotiated what "deaf" came to mean, also at their local school. In the investigated data, the students and their teachers describe the invitation to the lesson and its consequences as particularly successful, as consequential for identity development, and as a contribution to bridging the gap between deaf and hearing students in mainstream settings. The investigation demonstrates the intertwined and significant role played by technology in the balancing act of stabilizing a positive outcome while negotiating multiple intersecting identities of "deaf" and "friend" across what can be seen as "primary modality orientation." The findings have a number of implications for how we might think about identity development, the role of technology, and inclusive education. While there is an extensive literature on identity, few studies have examined how technology affects identity in deaf communities or in deaf education (for recent work, see, e.g., Holmström et al. 2015; Bagga-Gupta and Holmström 2015).

9.1.1. Ethnographic Background

The issue of deaf identity has, throughout the last decades, attracted a lot of academic and public interest. No less than "a profound revolution in our understanding of human language and culture" is said to have taken place when signed languages were validated as fully linguistic, and a subsequent rewriting from "deaf" to "Deaf" could be made in the sense that Deaf now signifies a cultural identity of a linguistic minority (Bauman 2008, p. 1). The changes that have occurred since the 1960s have provided a new vocabulary for the way in

which Deaf individuals can emancipate and empower themselves, and it has been strongly argued that identification with Deaf culture and Deaf community represents a “gain” (e.g., Bauman and Murray 2010).

The unique ways of socializing in deaf communities have long since challenged language socialization theory (Erting and Kuntze 2008). Because only a small percentage of deaf children are born into deaf culture (i.e., to deaf parents), the path to identification for most deaf children with hearing parents is not straightforward. This means that the primary sites of socialization for most deaf people are deaf schools, deaf clubs, and deaf congregations. In previous times, most deaf children attended government run residential schools for the deaf; thus, the schools played an important role as the arena wherein deaf children would meet culturally deaf peers and deaf adults, who served as significant role models. The role of deaf education in the identification processes of deaf students is widely acknowledged. In Norway, development of a positive deaf identity through identification with signed language users and deaf communities has, throughout the last decades, been an important goal of deaf education. The national curriculum for the school subject Norwegian Sign Language (NSL) explicitly states that “Norwegian Sign Language is a key subject with regard to cultural understanding, communication, enlightenment and developing an identity. One key objective of the tuition given in Norwegian Sign Language throughout primary and secondary education is to generate linguistic self-confidence and confidence in one's own culture as a basis for developing an identity, respect for others, and lifelong learning” (Norwegian Sign Language Curriculum, 2013).

9.1.1.1. *Deaf Identity in New Educational Settings*

Over the last decades, a range of significant changes have been made regarding deaf education in Norway, as well as deaf children and their families. The number of students attending residential schools for the deaf on a full-time basis is decreasing. Instead, students are increasingly enrolling in their local municipality schools. Aside from a general trend towards the principle of inclusion of all special needs students (e.g., as seen in the Salamanca Statement (UNESCO 1994)), the decreased full-time enrollment in schools for deaf students can in general be related to higher expectations of these children's development of intelligible speech, literacy skills, and goal attainment (Simonsen, Kristoffersen, Hyde and Hjulstad 2009). Early screening of newborn babies' hearing has led to earlier discovery and earlier diagnosis of deafness. Parents receive counseling and measures are taken to start and progress their children's language development (either signed and/or spoken) at an early stage. Further, between 90 and 95 percent of all children with congenital or pre-lingual profound hearing loss in Norway are now fitted with cochlear implants (i.e., advanced hearing aids) (Kirkehei, Myrhaug, Garm, Simonsen and Wie 2011). However, the trend of parents enrolling their children in local schools must, paradoxically, also be seen in light of the mentioned breakthrough and consequences of the view that deaf children should have the right to signed language tuition and bilingual education. In 1998, the Education Act was amended to include a section (§2.6) giving deaf students "the right to tuition in the use of sign language and through the medium of sign language" (Ohna 2005, p. 168, original in English). This made bilingual education for deaf students "normal" education and not tied to schools for deaf students. The responsibility of these students' education was placed on the local schools, which were expected to provide a teacher or teaching assistant with competence in NSL at the minimum level of 30 ECTS-Credits (European Credit Transfer and Accumulation System) (Ohna 2005). Local schools were also expected to cooperate with deaf schools (which, in

2000, were organized as units within a network of resource centers called “Statped”); this usually meant that the students were offered “part-time education” (i.e., receiving parts of their education—usually a few weeks a year—at schools for the deaf), while their teachers were offered courses at the resource center. National curricula in four school subjects were developed, and a substantial amount of teaching material was made to support teaching in and about NSL. From 1996, parents have been offered participation in an extensive (40-week) signed language training program until their children reach the age of 16, with the aim of improving communication at home. Such factors have made it easier for parents to justify having their child attend a local school, even though the child may be the only (deaf) student learning signed language at that school.

The new situation means that there are great variations in the amount of exposure to signed language and contact with deaf peers and adults these students actually receive. Adding further to the diversity is that many of these students (including their parents and teachers) enter the various programs for signed language training and part-time education at various ages, with some entering at a late stage. It is common for professionals and parents to have a “wait and see” approach, and only when they see that their child’s development is not optimal do they decide to “fall back” on signed language training as a “last resort” (cf. Galåen 2008).

In response to the decreasing number of full-time students in schools for deaf students, the Norwegian government recently changed its policy. In 2014, they closed down three out of four state schools for the deaf and turned the part-time education program into a new model for deaf education. In the new model, one of the main tasks of the former deaf schools is to support local municipality schools in providing deaf students bilingual education. Thus, the

focus has shifted to providing part-time education within rich signed language environments as a supportive measure for mainstreamed sign-bilingual students.

Concerning the focus of this chapter, as part of the new model, a distance education program was established to provide mainstreamed students an additional arena for learning signed language (i.e. NSL) together with other signing students also in the periods in-between the part-time education. In this program, advanced videoconferencing technologies are used to create a multi-party virtual classroom in which up to five differently located students connect to a teacher at the school for the deaf. The findings from the first six months of the program highlight some of the implications and results of this dramatic change in the education of deaf students in Norway.

9.1.1.2. Deaf Students Struggle in Mainstream Settings

The fact that deaf students often struggle in mainstream settings is not new. It has been well documented that they easily become communicatively isolated in mainstream settings, where they are often the only deaf student among a majority of hearing peers and teachers (Keating and Mirus 2003; Holmström et al. 2015). A recent Norwegian study (Kermit, Tharaldsteen, Haugen and Wendelborg 2014) confirms this international trend for the Norwegian setting, as well. The findings suggest that adolescents with sensory impairments report significantly lower self-esteem and greater loneliness than their peers. Almost one out of four report that they experience solitude. An overall finding in the interview study is that all students with sensory impairments express the wish “to be like everyone else,” but their effort to self-present as similar to their peers is a project that none fully succeed with (possible exceptions, according to the study, are signing students attending a part-time education). The study found

that many adolescents are well included in many settings. However, this inclusion is first and foremost the result of the adolescent's own effort, and the "informants tell the story of how they themselves, to different degrees, have to strive to adapt to other students or peers in school or during leisure activities" (Kermit et al. 2014, p. xv).

The limited signed language environment at the local school does not typically provide satisfactory conditions for the development of signing skills or a process of subject formation allowing for a positive deaf identity. Therefore, the justification for implementing a distance education program was partly based on reports from students' and teachers' experiences with part-time education stays. It was said that many of the students experienced a sense of having to "start all over again" when returning to a part-time education stay, due to the long time apart and the lack of continuation between stays at the school for the deaf. Thus, the distance education program studied in this chapter was set up as a supplement to the part-time education program, to provide a more continual offer to mainstreamed students.

The background described above makes it relevant to ask how such a goal—to learn signed language to a level at which it can form the basis of a positive subject formation and identification with the positive aspect of the signing community—can be reached, given the present situation.

9.1.2. Theoretical Background: Researching Identity in New Settings

The theoretical approach to identity in this chapter aligns broadly to a sociocultural linguistic framework (Bucholtz and Hall 2005), wherein five principles are proposed as the basis of an analysis of identity: 1) the emergence principle, 2) the positionality principle, 3) the

indexicality principle, 4) the relationality principle, and 5) the partialness principle. Following these principles implies seeing identities as emergent, rather than pre-existing, products. This means that identity is something that is situationally accomplished in moment-to-moment interactions with others and the world, and thus a fundamental social and cultural phenomenon. The aim of this chapter is to explore the students' own identity negotiations, seeking to avoid assigning unsolicited membership categories and rather to understand how they negotiate their subject positions. While identities encompass macro-level demographic categories and local ethnographic cultural positions, the analysis for this chapter is mainly concerned with the temporary and interactional stances and participant roles taken by the students. Identity relations emerge in interaction, through several indexical processes (Bucholtz and Hall 2005) spanning mention of identity categories and labeling to use of implicatures and presuppositions, evaluative and epistemic orientations, interactional footings and participant roles, and linguistic structures and systems associated with specific persons and groups—all of which were taken to be important ingredients of students' identity negotiations in the studied VME. Identities are relational and intersubjectively constructed through overlapping complementary relations, including similarity and difference. Further, any given construction of identity may, in part, be deliberate and intentional, and may also, in part, be habitual and hence less than fully conscious. Identities are thus partly an outcome of negotiation and contestation, partly an outcome of others' perceptions and representations, and partly an effect of ideological processes and material structures relevant for the interaction. Thus, identities are inevitable, but they shift as interaction unfolds and across various discourse contexts (Bucholtz and Hall 2005).

My argument is partly based on research that emphasizes the importance of interactive spaces for identity development. In particular, I draw on work done by: the feminist geographer Gill

Valentine (2007); the related “Deaf geographies” initiative (Gulliver and Kitzel 2015); similar arguments in linguistic anthropology (Keating 2008); and a “spatial turn” in recent studies in linguistic pragmatics, discourse studies, and sequential analysis of interaction (McIlvenny, Broth and Haddington 2009; Streeck, Goodwin and LeBaron 2011). Seeking to advance the theorization of intersectionality and the relationships between multiple identity categories and subject positions (i.e., “disability,” gender, race, sexuality, etc.), Valentine (2007) argues for an appreciation of the significance of space in processes of subject formation. She sees identities as “situated accomplishments” and builds on Judith Butler’s theory (1999) that identity categories are performative. She also finds resonance with actor-network theory’s (Latour 2005) notion that “things” do not have fixed or stable properties, but properties that emerge in practice (Valentine 2007, p. 14). Valentine argues:

[t]he identity of particular spaces—the home, the school, the workplace, or a community space such as a Deaf club—are in turn produced and stabilized through the repetition of the intersectional identities of the dominant groups that occupy them. [...] When individual identities are “done” differently in particular temporal moments they rub up against, and so expose, these dominant spatial orderings that define who is in place/out of place, who belongs and who does not. (Valentine 2007, p. 19)

Thus, stabilization and de-stabilization of intersecting identities are often seen to be connected to various spaces through the interactional work that shapes these spaces. However, while it is assumed that space matters for subject formations and the way in which people identify and dis-identify—there is common agreement that this is done at a situated interactional level—little is known and few empirical studies exist on the way in which such spaces are constituted.

In line with this theorizing, and given that different places stabilize different identities, one can easily conclude that deaf “segregated” school settings stabilize a positive deaf identity

and affiliation with a community of deaf people, while mainstream school settings destabilize a positive deaf identity and stabilize identities of “*dis-ability*” and *loss* of hearing. Such a conception is, however, too simple, and must be nuanced. Based on investigations of a VME that blurs the traditional spaces of segregation and mainstreaming, this chapter argues that we must instead investigate how stabilization is actually accomplished. The chapter entertains the simple idea that the things we do in various places (i.e., home, school, the workplace, etc.), are performed in typical ways. Through recurrent embodied interactional organization and joint coordination of talk and participation, our ways of doing things becomes conventionalized. This, I argue, contributes to the stabilization of these spaces as certain places. As I further argue—implied in the title of the chapter—the participants turn this VME into a “visually-oriented space.” The concept “visual-orientation” I have borrowed from Sangeeta Bagga-Gupta (2004). I also build on Goodwin and Goodwin (2004), who revisited and expanded the notion of participation (Goffman, 1981) within an embodied interaction perspective, which links works in linguistic anthropology with works on participation in other fields, such as education. Focusing on the practices that actors use to collectively participate in the endogenous courses of action in their lifeworlds, powerful tools are provided for analyzing and linking details of moment-by-moment language use to embodiment, culture, social organization, and material structure in the environment (Goodwin and Goodwin 2004). The “embodied interaction in the material world” perspective (Streeck et al. 2011) holds that all interaction is intrinsically multimodal. Thus, the visual orientation of signed language does not imply that the language interaction is any less multimodal, nor that only one modality is employed. However, in order for people to properly understand each other, it is fundamental that they take into account each others’ publicly displayed embodied signs of where they are and what they are attending to (Goffman 1964). Such embodied displays—that participants are mutually oriented towards each other, particular places,

objects, and events in the surrounding environment—creates what Goffman calls “an ecological huddle,” or what the Goodwins (2004) call “embodied participation frameworks.” The sociolinguistic practices for establishing and sustaining such frameworks are often not shared between deaf and hearing people, because signed and oral communication differs in primary modality orientation. I further suggest that participation is typically co-organized in frameworks that enable and constrain “who” the participants are allowed to be in that particular setting. However, as will be demonstrated in the analysis, the students’ agency is demonstrated through their negotiation and cooperative organization of participation. In addition, it is suggested that there is a relation between well known participation frameworks—allowing for “experienc[ing] the sense of sameness and belonging that comes from the ability to communicate freely with others like ourselves” (Valentine 2007, p. 17)—and the feeling of being “at home with” or belonging to a particular place.

Compared to studies of peer communication between deaf-and-deaf persons and hearing-and-hearing persons, studies investigating deaf-and-hearing peer communication in natural settings are scarce. It is a paradox that while a substantial amount of research has reported that deaf students in mainstream settings struggle in social relations with their hearing peers (cf. Xie, Potměšil and Peters 2014), very few studies have actually studied the emerging interaction, which becomes critical with mainstreaming. Only a few observational studies of classroom practices with deaf or hard of hearing students within mainstream education have been conducted (e.g., Holmström 2013, focusing on students with cochlear implants), and some studies have focused primarily on teaching practices (e.g., Ohna 2005). How deaf and hearing peers interact inside classrooms has attracted very little attention. Keating and Mirus (2003) investigated peer interactions during recess and lunchtime in the school cafeteria, and found that “unshared sociolinguistic practices and hearing-oriented participation frameworks

are crucial aspects of communicative failure between hearing and deaf children in mainstream elementary school settings” (Keating and Mirus 2003, p. 131).

The study in this chapter was initially set up to study the classroom interactions in a new VME with exclusively signing participants (peers). However, a unique opportunity presented itself when—on the initiative of students in one group—hearing, non-signing friends from the students’ home classrooms were invited to a lesson. This provided interesting data that demonstrated not only that the technology brought these students together—providing an opportunity for establishing a “we” and the collective work of negotiating and interpreting what it is like to be deaf—but also that the (use of) technology could be appropriated to strengthen the students’ sense of positive identity, also vis-à-vis their hearing classmates. Consequentially, the usual roles were reversed, with deaf students no longer at a disadvantage in the classroom. Rather, the hearing students needed special intervention in order to participate in a framework that favored skills and abilities they did not possess. However, as the data demonstrates, this situation still seemed to work out fine; that is, it worked fine *as a result of* the careful planning and preparation for the invitation of the hearing classmates.

The “friendship” teaching plan and the invitation of classmates to the distance education lesson was described as a success. This led me to pursue whether it would be possible to unravel what had most likely made it a success. In particular, I discovered that what most likely constituted the success could be revealed by scrutinizing the preparation process leading up to the successful lesson. This process, I argue, has a number of further implications for how we should think about identity development, the role of technology, and inclusive education.

9.2. Methodology and Data

Inspired by methods of micro-ethnography (Streeck and Mehus 2005), the data for this study was gathered from a range of sources, spanning documents relevant to this project and deaf education to observations of teachers' lesson planning meetings and interviews with teachers and students. However, the most important data were video recordings of the coordinated activities inside the distance education "virtual" classroom. The setup of the VME made it technically easy to record the same live images (video) the participants used to interact with in the VME (see Fig. 9.1). This recording was carried out by the program's technician by a streamer that recorded the lessons and saved them into video files. The project involved 20 students—in 6th to 10th grade (approximately 11 to 15 years old)—and five teachers, who were organized in five groups. All groups had one lesson of approximately 45 minutes a week, and additional homework in relation to those lessons. The period of data collection lasted six months and 67 lessons were recorded. The focus was primarily on 15 consecutive lessons in one group of five regularly participating students (Oscar, Ruth, Wilma, Gail, and Tina—all fictive names). The 15 lessons were logged in order to produce a general overview of the material and to deal with the theme of "friendship" covered in this chapter. A total of 57 minutes was transcribed in detail.

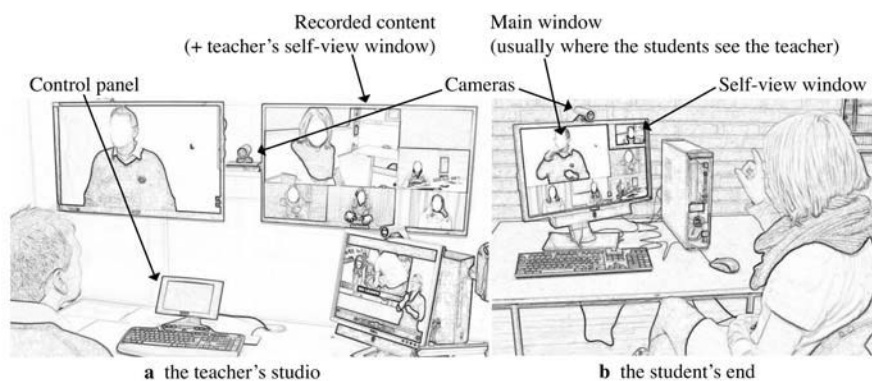


Fig. 9.1 Virtual classroom environment: **a** The studio at the school for the deaf, **b** Set-up at a student's local school.

ELAN, a tool for interaction analysis, was used to transcribe the signed language interactions, combining adapted transcription conventions from conversation analysis (CA) with conventions from signed language linguistic research for glossing manual signs. Analysis of signed language discourse poses several methodological and conceptual challenges. In the process of adapting and preparing recorded material containing signed interactions for analysis and presentation, the analyst is bound to confront issues connected to how the data is transformed into a more permanent form—usually text, but often images and other graphical representations (cf. Heath, Hindmarsh and Luff 2010). Detailed annotation of the interaction seriously challenges the readability of the transcripts—a concern shared by researchers who work to incorporate multimodal and embodied aspects of interaction. Therefore, in the presentation of the findings, a combination of sketched frame grabs, glossing symbols, and translations into full sentences are used.

9.3. Findings

In this section, observations and findings are presented in four parts. First, I present observations of the participants reporting the “friendship” teaching plan as a success (Sect. 9.3.1). In preparation for analyzing the identity negotiations, I found it useful to first deal with observations concerning the particular VME the teaching took place in—its designs, templates, and teaching formats, and how its ecology constrained but also enabled the exploitation of new participatory possibilities (Sect. 9.3.2). The findings in the third part (Sect. 9.3.3) show that success was related to the fact that the students cooperatively planned for it to be successful, revealing what they were working to accomplish in the successful lesson (being friends across different systems for primary modality orientation). Finally, I return to the successful lesson (Sect. 9.3.4). In retrospect, seeing the lesson in relief against the background of the planning, some of what made this lesson successful stands out.

9.3.1. A Story of Success

I start my presentation with participants’ reports about the success of the lesson, which I find, in important ways, to actualize questions of subject formation and identity. The following section covers what the success refers to, what aspect the success concerns, and why it should be considered consequential for the process of subject formation. The success is pointed to on various occasions throughout my data, calling attention to something that was done differently—and better—than before.

9.3.1.1. *Extract from Evaluation*

The following extract is taken from the evaluation in the lesson *after* the successful lesson, where about five minutes are reserved for evaluating previous lessons. All of the students say that they think the lesson was great, and that even the visiting friends had been enthusiastic about it. In the following sequence, Ruth reveals some of the lesson's consequences:

- 1 Teacher: THEN, THINK TRY EVALUATE LAST TEACHING BEFORE CHRISTMAS, YOU TAKE WITH FRIEND, REMEMBER YOU?:
Then, I was thinking we should do an evaluation of the last lessons before Christmas, the one where you brought a friend, do you remember?
- 2 Students: (nods)
- 3 Teacher: THINK YOU (.) TEACHING LESSON:, YOU TAKE WITH FRIEND, FUNCTION GOOD, WHAT?
What do you think (.) of the teaching lesson, when you brought the friend, did it work well, or what?
- (Twelve lines (49 sec.) taken out)
- 15 Ruth: VERY FUN, FRIEND THINK FUN, AND- (.) FUN- THEY NAG ALLOW WITH, AND FOR SIGNS IN LESSONS- MUCH LIKE:: (.)
It was very fun, the friends thought it was fun, and- (.) fun- they kept nagging about being allowed to come along, and about signs during the lessons, and stuff.
- 16 Teacher: (sits back - surprised look)
- 17 Teacher: THEY FRIENDS LEAR- WANT_TO LEARN SIGN?
So, these friends lear- want to learn more signs?
- 18 Ruth: YES:: (smiles)
Ye:ss!
- 19 Teacher: GOOD. PT CONTINUE TEACH SIGNS THEM.
That's good. You have to continue teach them signs.
- 20 Ruth: YES- SO:- (.) ALL FRIENDS MINE WANT TALK SIGN ALL_THE_TIME.
Yes, so:- (.) now, all my friends want to use signs all of the time.
- 21 Teacher: MUST.
you should.
- 22 Teacher: GOOD. CONTAGION EFFECT, SIGN SPREAD. GOOD.
That's good. It has a contagious effect, it spreads the use of signs. That's good.

Fig. 9.2 Transcription: Extract from evaluation

Ruth speaks about the effect of the invitation on her situation and identity in her local school, citing an apparent change in her classmates' interest in learning signs and signed language, and thus a greater attraction to her. The style in which Ruth speaks about this should be noticed: smiling, with a distinct "sensational news" style (i.e., eyes wide open, torso moved back, chin pulled in), attesting to the positive value this has for her. The teacher also responds to this through a matching of style in line 16. Ruth's facial expression, including the manner in which she performs the signs (i.e., drawing on prosodic features), clearly indicates her stance with respect to what she is saying, making it very clear that even if she chooses to use the sign NAG (nagging), this is to be interpreted as a positive. Because only one of her friends from class is allowed to join at a time, there is competition over who will be invited next. Thus, both the one-at-a-time organization and the fact that she and her deaf friends are now perceived as being in an exclusive group account for the success. The situation is one in which her friends want to sign to her, and she must teach them signs "all of the time."

By speaking about this effect, Ruth indicates that her popularity has increased and that she has become someone whom the others initiate contact with. The reason for their initiatives is that she has attractive knowledge that they want her to share with them. They now have a means of initiating contact and a topic: "learning signs." In light of what these initiatives from her hearing non-signing friends do to her situation and identity, there is a change in the (typical) organization of participation between her and her friends, suggesting a close connection between who she is (or who she can be) for others and the way in which participation is organized.

9.3.1.2. *Extracts from Teachers' Interviews*

The local teachers also bring attention to the “effect” of the new distance teaching setting and how this “effect” relates to the process of subject formation. In an interview conducted with the students’ local teachers at the end of the project period, Gail’s local teacher points to “another side” of language learning brought about by the distance education teaching:

I think that—that—that language—the language has improved, plus there is another side to this, and that has to do with being proud of the language and of what you have knowledge of, it can be—yes, that ehm, I think that this has contributed in a way to raise the status of the language, this thing, right? This [unintelligible] distance education and all this—like for the self-esteem, that this is something that is important. (Translated from spoken Norwegian)

The teacher highlights being proud of the language and having this knowledge, the raised status, and the self-esteem that derives from the importance of this teaching. Further into the interview, Gail’s teacher is even more specific, mentioning:

[...] they brought on one occasion one friend, right? And it could be—what I wish is, that they would be allowed to bring more—bring more—a few students, on more occasions, just in order for them to see what is going on, a good idea.

Gail’s teacher indicates that she would like to have more lessons like the one they had when the students invited a friend from their local class. Further on, she follows up and makes a connection between the invitation of a friend and what this new setting can bring about for the signing students:

[...] it has something to do with raising the status of these students, very many of these students may, struggle some with—with in a way, of making themselves known [Norwegian: by på seg selv], right? And this is a very fine way to—because this is kind of ex- exclusive and special, so it is something in building status and the interest, to put it that way, this is what I would wish for.

Interestingly, Gail's teacher frames it as common knowledge that these students often struggle with "making themselves known [*by på seg selv*]" in mainstream classrooms settings. Thus, she indicates that identity is a process that takes place over time and that may involve very subtle types of communication, and that a lack of fully shared communication practices can challenge a full display of a person and who they "really" are. This is apparently not only something she has discovered about her own student, but something she understands as a known fact (as displayed in the tag question: "right?"). In addition to being widely documented in research, this topic is often discussed among the local teachers at the regular local teachers' courses that Statped arranges simultaneously with the part-time education periods.

However, while she is pointing this out, she does not give an account of what, more specifically, this situation provides, other than concluding that it is "a fine way" for the students to deal with their difficulties. The rationale for scrutinizing the teaching plan that is claimed to have been successful is precisely that its "effect" built self-esteem and grounds for a positive identity. I suggest that it is not satisfactory to think success happens "out of nothing," or to ascribe it to the "exclusivity" of the technology.

9.3.2. Stabilizing Designs, Templates, and Teaching Formats

Preparing for the analysis of identity negotiations, I will first present a range of observations concerning the particular environment, all which seem significant for the lesson having been a success, all—in different ways—relevant to the way in which participation was organized in the lessons, and all related to the affordances (Gibson 1979) of the environment. The various designs, templates, and teaching formats used in this setting can all be said to contain

“inscribed” visions of, predictions of, or scripts (i.e., distributed responsibilities and anticipated actions) for imagined users (Akrich 1992).

When Statped decided to establish a distance education program, the project management had to acquire video conferencing technology for use in the program. The process of selecting equipment and adapting the technology to accommodate visual oriented use revealed interesting information concerning expectations of potential users and how they would typically participate in this new interactional space.

First, it became obvious that even though this particular participation technology was made to enable participants to see each other, it was *not* initially made for video-*only*-mediated communication. Connecting participants at different locations challenges the designers of such technologies to decide how the different windows displaying each of the participants are made visible to the participants. Thus, how the participants in the multi-party setting see each other is “hard-coded” in templates that are chosen to be controlled by sound. Any sound (e.g., speaking) at an endpoint rearranges the order of windows so the location making sound (or speech) is displayed in a bigger “main window” of everyone’s screens (see Fig. 9.1). This makes perfectly sense in communication that is primarily spoken, but, in signed language interactions, which are usually produced without sound and where visual orientation is a prerequisite, any accidental sound in one of the connected rooms can cause a sudden shift in the arrangement of windows and thus necessitate shifts in gaze direction. Clearly, we can see that the designers envisioned that the main mediating channel for communication through this technology would be sound, and they scripted this so the video image would follow and be subordinate to sound. This points to the fact that all technologies are designed for an imagined typical user, thus it can be said to be inscribed in the technology’s design (cf. Haualand 2012).

The second point is that the choices made by Statped concerning the way in which the technology would be adapted and used attests to their vision of their (imagined) users. In the technology's templates, there is no option to deselect the sound control of the window arrangement. Therefore, the only way to avoid visual disturbance and go around the script is to make all participants mute their microphones. This has the convenient effect of stabilizing the mutual *visible* ways of participation as the only viable ways of organizing embodied participation, and thus enabling a focus on learning and practicing signed language skills. Simultaneously, it de-stabilizes the space as an environment for oral communication skills and makes such skills irrelevant for establishing and sustaining joint attention across the virtual space. It also makes participants' ability to hear (or lack thereof) irrelevant for joint attention and the coordination of activities across the virtual space. This has a curious parallel to signed language interactions in co-present settings where participants typically mute their voices—reportedly to enable signed language grammar. But perhaps more importantly, it puts all seeing participants on an equal footing, regardless of their degree of hearing loss. Here we see a re-distribution of the responsibility for stabilizing the environment as a visually-oriented space (or a Deaf space; cf. Gulliver and Kitzel 2015; Valentine 2007), shifting it from a responsibility dealt with through the working consensus of the encounter to something that is accomplished through the way in which the technology is employed.

The studied VME is also stabilized as a school space (i.e., a classroom) through the configuration and physical location of the equipment. Also, the teaching formats, which the teachers prepare and enact, stabilize certain patterns for the typical organization of participation. The tasks given by the teachers are typical activities for the class to accomplish, which are both locally and historically shaped (Mondada and Doehler 2004). The investigated

data shows that the tasks are very often explicitly specified in terms of how participation should be organized in the joint collaborative accomplishing of the task. The teachers choose and adjust the teaching format to fit the affordances of the VME and the purpose of the distance education program. The VME can, for instance, be seen not to favor lecturing or students working on an individual task. Instead, tasks that can increase student interaction are typically chosen (e.g., discussions, sharing presentations, and tasks that invite students to comment on each other's contributions)—tasks that facilitate peer interaction and peer learning. This is significant, because peer interaction and peer learning are precisely what seem vulnerable for mainstreamed deaf students, due to their uneven access to communication and partially unshared communicative practices.

When students learn how to communicate and take part in the repeated activities within these designs, templates, and teaching formats, the participation frameworks of the VME become conventionalized, and thus stabilized. But this simultaneously de-stabilizes the possibilities for participation by (hearing) students who have not developed the necessary skills to participate in the setting. However, as is made apparent in the next section, the students who become skilled at communicating in this environment also learn and become able to perceive other possibilities for designing and adjusting the participation frameworks. That is, to grow familiar with the VME allows them to create frameworks for the non-conflictual intersecting identity position of “friend,” regardless of ability and skills relating to participating in and through systems based on different primary modality orientation (as in signed vs. spoken language interaction).

9.3.3. Doing Identity Negotiations

This section demonstrates some of the ways in which identity was negotiated in the “friendship” teaching plan. As discussed above, the participants pointed to the invitation lesson, itself, as successful. However, investigating this particular lesson, I did *not* find many examples of identity negotiations, as such; thus, it was somewhat hard to render the ways in which the talk and activities in this lesson were relevant for the students’ subject formations. What I found instead was that the invitation lesson was planned to be this way, and it turned out as planned. I also discovered that the previous lesson, in which the students prepared for the successful lesson, was particularly rich with identity negotiations. In this section, I present some of the identity negotiations done by the students while they cooperatively accomplished the task given by the teacher. The task was to plan the activities in the upcoming lesson when their friends were to visit.

9.3.3.1. Designing Participation Frameworks

In the preparation lesson, the teacher gives a task that the students are supposed to prepare as homework. They are to discuss what to do in the following week’s lesson, when their invited friend from class will join them. The teacher fulfills multiple purposes through her arrangement of this task. She does not just ask for the students’ suggestions of what to do in the next lesson, but makes a task out of it. Nor does she pick a random topic to discuss, but she allows the students to influence the content, as well as the procedure, of the upcoming lesson. Ruth is given the role of “teacher,” or moderator, in the discussion. In the following extract (Fig. 9.3), Ruth presents her idea for what to do in the next lesson.

1 Ruth: YES, I ((lag)) THINK HAVE LIKE (gaze up) GAME QUOTATIONS LIKE (gaze side) QUIZ LIKE (moves head), BOTH TOGETHER^WORK, BUT LIKE ONE- TWO DIFFERENT LEVELS, ONE TO THREE_OF_US KNOW MUCH SIGN LANGUAGE, BUT ONE OTHER LEVEL TO THEY OTHER FRIENDS KNOW LITTLE LESS OR_SOMETHING? MEANS LIKE SOME TASKS TOGETHER^WORK OR_SOMETHING?
Yes, I think we should have a like "game", like a Quiz kind of, so that both get to cooperate, but the way that it has two different levels, one for us who knows a lot sign language, but another level for the other friends who know a little less, right? So it means on some tasks we have to cooperate, or something.

Fig. 9.3 Transcription: Idea for activity in upcoming lesson

In the above extract, Ruth creates a category, “us,” with the characteristics “who know a lot of sign language.” She creates this in contrast to “the other friends”—a category she positions with “who know a little less.” Thus, Ruth establishes two groups, each with a different level of skill, and uses her background knowledge of her classmates to make this categorization. In other words, she sees herself and her signing friends as “experts,” compared to her other friends, in communicating in this environment. Further on in the lesson, these two categories re-occur several times. Ruth could just as well have used hearing status as the difference between the groups. However, I suggest that she does *not* use this construction because the critical difference between them (in this particular membership category) is not whether they are hearing or deaf, but their ability to participate in her suggested quiz in the VME. Notice also how she does not create a category of “the others” as friends, but, with the construction “the other friends,” she indexes those “who know a little less” as friends, while at the same time implying that those present are also friends. This implication establishes an encompassing “friends” category.

Further, we learn from what Ruth is saying that “games” (modified with the QUOTATIONS sign) can include quizzes and quiz-like games. While games do not need to include talk,

quizzes (games of questions) always involve either spoken or written language. What is important here is that games or quizzes create expectations about the procedure of the activity—that is, how participation will proceed—much as the teaching formats mentioned above do. Quizzes can be seen as pre-formatted templates or scripts for cooperatively organizing participation. A quiz is a particular discourse type that sets strong sequential organization: question—working out an answer; then answering—scoring (i.e., before or after more rounds of questions). Thus, it includes known procedural guidelines on the organization of participation. In relation to this participatory organization, Ruth foregrounds her feeling that expectations should be different for each of the two categories of participants, and that the phase of “working out an answer” should be arranged in such a way “so that both get to cooperate” (i.e., as friends do). In other words, she connects this to the way in which this cooperation should be done—in two levels, each related to the skills categories she creates.

9.3.3.2. *Managing Possible De-stabilization of Participation*

In the next step, the other students comment on Ruth’s proposal (as specified by the teacher when giving the task). Gail comments first. After a little hesitation, she continues:

- 14 Gail: I VIEW- THINK DIFFICULT OTHERS UNDERSTAND WHAT THREE_OF_US TALK ABOUT.
My opinion- I think it will be difficult for the others to understand what we're talking about.
- (two lines 9,5 seconds omitted)
- 17 Tina: I THINK GOOD AND F- FUN FOR FRIENDS, FRIENDS THINK CERTAIN FUN TAKE QUIZ: I THINK: GOOD.
I think it's good, and that it would be f- fun for the friends, the friends will probably think it is fun to do a quiz, that's what I think, I think it's good.

Fig. 9.4 Transcription: Comments to activity proposal

Gail (in Fig. 9.4, line 14) points to a possible conflict between Ruth's suggested activity and the guests' ability to participate. I find it interesting that in all of my data related to this visit up until this point, it is never questioned that an invitation of non-signing friends to this environment will in fact "work," and that they will be able participate in this setting at all. Gail anticipates, or rather envisions, how it will be for the friends to participate in this setting, and positions them as insufficiently skilled for taking part in their interactions. At the same time, she positions herself as someone who is concerned on their behalf (as a friend would be). To participate in the quiz, the friends must understand its content; otherwise interactional trouble might de-stabilize and exclude the friends from participation. In this light, her objection appears reasonable. As seen in line 17 (Fig. 9.4), Tina does not agree. However, the issue of exactly how the non-signing friends will be able to follow what the signing students will say remains, for the moment, unresolved.

9.3.3.3. *Securing Balanced Participation for each Category of Participants*

The teacher then takes the floor and asks more precisely what kind of quiz the student has in mind, and if she can give an example of a question. This can be seen as an attempt to work out the above issue. By responding to the teacher through giving a suggestion, Ruth starts by referring not to the quiz content, but to the way in which it should be answered:

1	Ruth:	<p>[(strong nod) OK. ONE TO THREE_OF_US KNOW SIGN LANGUAGE: (gaze up) WELL: EXPLAIN IN SIGN LANGUAGE WHAT (gaze side):- BOTH- BOTH NOW, (gaze side) EXPLAIN WHAT- WHAT HAPPEN- (gaze side) WHAT SPECIAL WITH CHRISTMAS? <i>Ok. Here is one for us who knows sign language, umh, well, explain in sign language what- umh, or for both- both now, uhm, explain what- what happens- uhm, what is special with christmas.</i></p>
2	Teacher:	<p>(wave) EXAMPLE WELL (gaze up) WHY CELEBRATE CHRISTMAS? EXAMPLE ONE QUESTION?: <i>Umh, for example, well uhm, why do we celebrate christmas? Could that be an example of a question?</i></p>
3	Ruth:	<p>YES, BUT, SOME EXPLAIN MORE, MEANS THEY CAN EXPLAIN MUCH, THREE_OF_US REGULARS HERE, BUT LITTLE EASIER TO FRIENDS, AND TOGETHER^WORK TOO. <i>Yes, but, some have to explain more, it means those who can explain a lot, that would be us who are here regularly, but it should be a little easier to the friends, and we should also be able to collaborate.</i></p>
4	Teacher:	<p>YES, YOU CAN FOR_INSTANCE- IF I MAKE QUIZ I: QUESTIONS, FOR_INSTANCE RUTH PLUS YOUR FRIEND DISCUSS SPEAK+(oral) FIRST DISCUSS SPEAK+(oral), AFTER RUTH ANSWER+(back) WITH_SIGNS, AFTER?: OK. POSSIBLE. <i>Yes, you can, for instance if I make the quiz, I'll do it, with the questions, and for instance Ruth and your friend have a discussion and speak orally with each other, first discuss, speaking orally, and then Ruth returns the answer by signing, afterwards?: Ok, that's possible.</i></p>
5	Ruth:	<p>YES. <i>Yes.</i></p>

Fig. 9.5 Transcription: Securing balanced participation

Here (Fig. 9.5), Ruth elaborates on the sort of participation a quiz question should imply: 1) some (i.e., “us” who are “regulars here” and “can explain more”) should have to explain more and elaborate, 2) the question should be easier for the friends to answer, and 3) there should be cooperation, implying that there should be teams answering the quiz. Next, the teacher suggests a procedure for enacting the quiz. The teacher should be responsible for making the quiz and asking the questions—in the “virtual space” (Keating 2008). Further, the two students at each end—in “real space” (Keating 2008)—exemplified here by Ruth and her friend, should discuss among themselves, using primarily audilogically oriented practices

(i.e. spoken language). When they have arrived at an answer, the signing student (Ruth) should respond, using primarily visually-oriented practices (i.e. signed language).

The teacher not only distributes the responsibilities of who should answer, but also distributes each of the systems for primary modality orientation (i.e., spoken and signed language) onto the specific sequential parts of the quiz. This also secures balanced participation for each category of student, as both have a “home” space in which to fully master the means and skills of participation (and ability to participate). However, one is embedded within the other as the “game” master (teacher) is only available through the visually-oriented virtual space. Thus, a solution is offered to Gail’s contestation in 9.3.3.2.

9.3.3.4. *Introducing Friends in Visually-Oriented Virtual Space*

When it is time for Tina to give her prepared suggestion of what to do when the friends are invited, she proposes that the friends present themselves using signs.

1	Tina:	OK, I PROPOSE THAT CAN TELL NAME IS, AND BORN WHERE, AND HOW OLD LIKE, WITH SIGNS. <i>Ok, I propose that they can tell their names, and where they're born, and how old they are, using signs</i>	
2	Teacher:	(wave) THEY TRY SIGN TELL LITTLE, IN BEGINNING THEM, OK, GOOD PROPOSAL <i>So, they will try to use signs and to tell a little, in the beginning, so you can get to know them, ok, that was a good proposal</i>	YOU+pl GET_TO_KNOW
3	Tina:	YES. <i>yes</i>	YES. <i>yes</i>

Fig. 9.6 Transcription: Proposing how to introduce friends

Tina suggests that the friends do something that is easy to perform and learn—for example, fingerspelling and/or learning their name-signs or the sign for the place they come from, and telling their age. This proposal gives the invited friends a chance to present themselves using signs and specifies how they should participate, taking turns presenting themselves in the visually-oriented virtual space—or, if you like, the virtual Deaf space (cf. Gulliver and Kitzel 2015). The teacher also indicates that this will be done at the beginning of the lesson (before the quiz); thereby, she is planning the organization of the whole lesson.

9.3.3.5. *Telling a Shared Narrative*

After all of the students have given their prepared proposals for what to do when the friends from class join them, the teacher asks what else the friends should (be able to) speak about. In the following extract, Ruth expands on this.

1 Ruth TELL WHAT LIKE DO, WHAT:- HOW THEY GET-TO-KNOW FRIEND LIKE, I BRING FRIEND NEXT TIME, PT TELL WHY PT GET-TO-KNOW ME LIKE, HOW TWO MEET LIKE WHAT.
They should tell about what they like to do, wha:t(:)- how they came to know their friend and such, I'm going to bring a friend next time, and she will then tell about why she got to know me and such, how the two of us met and such.




Fig. 9.7 Transcription: Telling a shared narrative

Ruth explicitly brings forward a focus on the friendship category (i.e., the joint category comprising them all) and thereby highlights not their difference, but their sameness. As friends, they have a shared history and a potential shared narrative. Telling this narrative can

stabilize their friendship and also legitimize the invitation and their presence in the visually-oriented virtual space. It also focuses on the interactional work needed to fill and stabilize the creation of a category we might call “friend of deaf.” Here, it is seemingly foremost the identities of the friends that are addressed; indirectly, this also reflects on the students’ own identities, because a story of how they got to know their friend is also a story about each of them.

9.3.3.6. *Technology-Positioned Relation*

In the previous extract (Fig. 9.7), Ruth takes the technological configuration into account when forming her utterance, in a way that involves both the material possibilities and the actions afforded. Embedded through I BRING FRIEND NEXT TIME, by a point (PT, translated “she”), Ruth assigns a particular location to her friend. This is a common practice for talking about non-present referents in signed language talk; however, through the very specific way in which Ruth performs this point, she places her friend beside herself within the frame shaped by the technology (i.e., showing where her friend will be seated when she speaks about how she knows Ruth and how they met). In this way, Ruth anticipates or imagines how they will be physically seated in relation to both the technology and each other.

Moving on, Ruth questions the extent to which their friends know signed language. None of the others’ friends know many signs, and, consequentially, Ruth suggests that they give the visiting friend an assignment—to learn some basic signs in preparation for the visit. The teacher adds that she thinks this is a good idea, and that they should practice together and tutor their friend in order to prepare for the visit. They agree that this will make the following lesson more fun. However, in retrospect, this probably also put the signing students in a new

position vis-à-vis their friends, compared to what they were used to in the mainstreamed setting. By giving their non-signing friends homework and tutoring them, the students allowed for new patterns of participation (positioning themselves as skilled tutors) that increased the shared repertoire of resources for interacting and sustaining their friendship.

9.3.3.7. *What Will They Learn?*

In the final extract of this section (Fig. 9.8), Ruth asks what the others think the invited friends will learn from the lesson (the removal of 48 seconds was due to technical difficulties that left Ruth out of the rest of this sequence).

- 1 Ruth: WHAT THINK TWO-OF-YOU, FRIEND TWO-OF-YOU LEARN FROM LESSON?
What do you think, your friends will learn from the lesson?
- ((approx. 48 sec. taken out))
- 2 Gail: THEY MUST CRAM SIGN LANGUAGE.
That they have to cram sign language.
- 3 Teacher: YES, THEY LEARN SIGN LANGUAGE YES, TOPS:
Yes, they learn sign language, yes, great.
- 4 Gail: TOPS. (nod)(smile)
- 5 Teacher: TINA, PT
Tina?
- 6 Tina: LEARN- *TEACH* SEE- LEARN SEE SIGN LANGUAGE AND (.) MEET FRIEND-
KNOW MORE ABOUT FRIENDSHIP, [MEET EACH_OTHER (so) KNOW WHO
THEIR FRIEND, SUCH.
*They learn- *learn* from see- learn from seeing sign language and (.) get to
meet friend- so they know more about friendship, get to meet each other,
so they know who their friends are, and such.*
- ((approx. 14 sec. taken out))
- 7 Tina: AND MEET (collective) MORE [DEAF: DEAF.
And they meet as a collective, more deaf, deaf.
- 8 Teacher: LEARN HOW DEAF, THINK YOU?
They get to learn what it's like to be deaf, you mean?
- 9 Tina: (nods)
- 10 Teacher: YES, GOOD.
Yes, good.

Fig. 9.8 Transcription: What the friends will learn

Gail's answer is expressed with a smiling face, which is further supported by the sign choice CRAM and the manner in which it is performed, indicating that this is a desired result and perhaps even a longed-for situation—their friends will *have to* learn and use signs. The teacher clearly responds to Gail's enthusiasm in line 3. Gail's answer also indicates that after working out this preparation for the invitation, she seems able to envision that this might actually work (compare with Fig. 9.4 in Sect. 9.3.3.2). Tina, in line 6, suggests that this will bring about a situation that will allow the hearing friend to meet and identify with others who are similar to them. Further, in line 7, Tina highlights that this will give the friends the opportunity to meet deaf students as a collective—which perhaps the friends from class will have never experienced. This is an important point for identity building, as it allows the deaf students to present aspects of themselves that their friends have never seen. In this way, the friends get to learn (some) of what it is like to be deaf. The term “deaf,” as used by Tina and the teacher, is not about loss of hearing; rather, it confirms “deaf” as a cultural identity category.

9.3.4. The Successful Lesson

The suggested participation frameworks that were collaboratively worked out proceed just as the students and teacher foresaw in their planning, implying that they managed to organize and coordinate the activities in order to create the desired effect and maintain the focus of the activity. Thus, the lack of shared resources for participation does not disturb the main focus of the activity—having fun with friends across primary modality orientation.

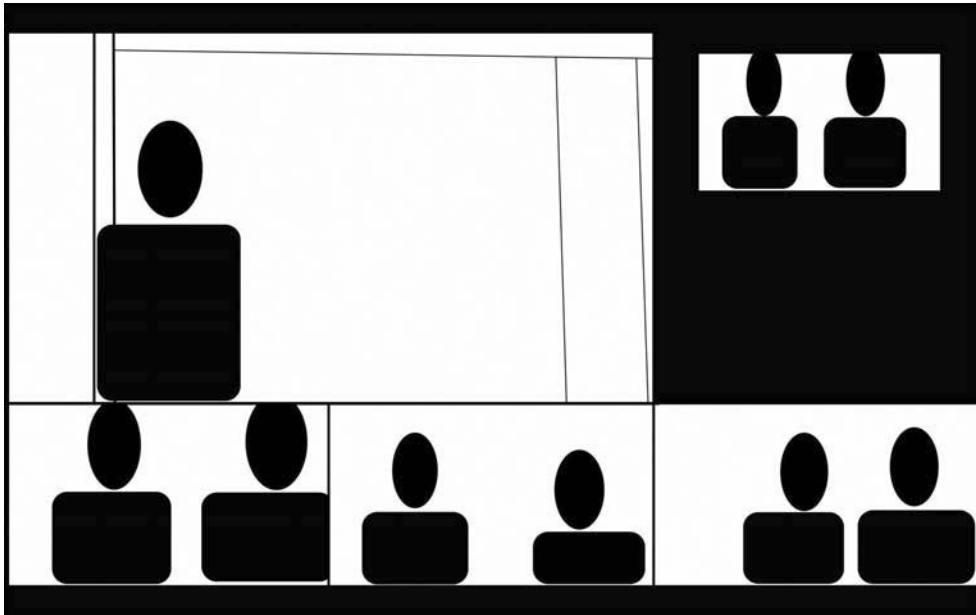


Fig. 9.9 Students' seating in virtual space

When the students log on at various times, they sit side-by-side within the frame created by the camera angle (see Fig. 9.9). Initially, there is some waving across the VME or the “virtual space,” but most of the interaction in the beginning is conducted in “real space” (Keating 2008) at each end. The students can be seen to talk (primarily orally) about what they observe on-screen, visible at the other ends through the mouth movements and the quick and continuous gazing back and forth between each other and the screen. The students also use occasional gestures and sometimes copy other students at the other end of the VME. The guest students are seen to practice fingerspelling their names and to repeat signs they have learned beforehand, while being guided by the signing-skilled students. This primarily dyadic interaction seems to work fine, representing a communication (participation) framework that deaf students typically manage better than multi-party (oral) settings. The fact that the technology does not transmit sound makes the local setting much more controllable and easy to cope with in the “real space” at each end, preventing it to develop into spoken multi-party

interaction (cf. Keating and Mirus 2003, p. 123). In the “real space” at each local school, the orientation to the visual activity on-screen is embedded within a primarily audiologically oriented participation framework. This dyadic interaction is, on the other hand, embedded within the larger coordinated activity within the visually-oriented participation of the virtual space—which is, in large part, mediated and coordinated by the student with signing skills.

The lesson is divided into well defined phases that are framed and enacted by the teacher. The teacher only initiates the start of the actual “lesson” after approximately 10 minutes. The teacher starts by reminding everyone of the importance of keeping focus on the joint activity on the screen. The lesson begins with a presentation round. Each of the signing students interprets the teacher’s instructions (i.e., framings of the upcoming activity) to the visiting friend. The task is for the friend to say in signed language what his or her name is—first in sign, then by fingerspelling the name. Then the teacher writes the name on the whiteboard. This is an example of “local chaining”—a way of linking through presenting the same content in various modalities, sequentially (e.g. fingerspelling, signing, and writing)—a much documented practice in deaf education (e.g., Bagga-Gupta 2002). Occasionally, the signing student turns and helps the friend and tutors her (or him). While one student is presenting, other students simultaneously talk and comment on what is going on online. Since the sound is turned off (and the activity is so well defined), this does not disturb the presenting student. In this phase of the lesson, the teacher is the only one engaged in the main activity at all times.

After approximately 10 minutes, the teacher frames a new task. The task is for the signing students to take turns telling why and how they became friends with their non-signing friend. In this phase, the signing students add voice to the signing. (At one end, a local

teacher/interpreter seems to help by interpreting what the signing students say). The teacher asks follow-up questions.

After another 10 minutes they start the prepared quiz. The teacher has set up the questions in a pre-made quiz template—a feature of the Whiteboard software. The teacher has prepared the questions in writing, and these are visible on the whiteboard so they can be read by the contestants.

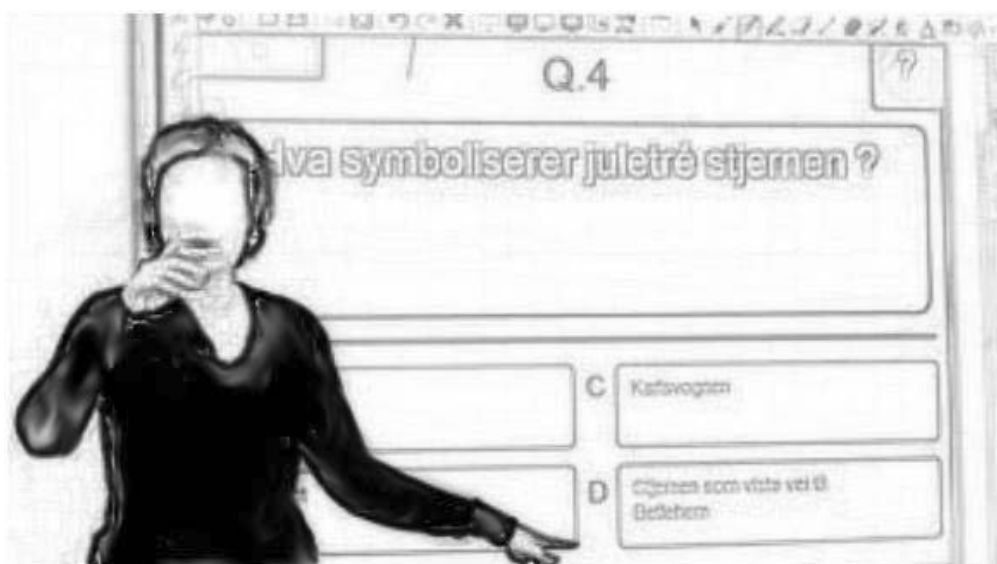


Fig. 9.10 The teacher coordinating the students' answers

All of the questions have four multiple choice answers in writing presented beneath them. Each choice is also marked with a letter: a, b, c, or d (see Fig. 9.10). When asking the questions, the teacher repeats the question, including the different answers, in signed language. The students have separate responsibilities when answering, and they must decide on an answer together (through mainly oral discussion) before raising their hand to signal they are ready to answer. Usually the guest answers, upon being called (i.e., addressed) with

their name-sign by the teacher. The called guest answers by showing the handshape corresponding to the letter in front of the right answer. The participation framework and the firm procedures for anticipated actions likely give the visiting guests a sense of being part of complicated visual interaction across the virtual space.

The quiz takes approximately 15 minutes to finish. After congratulating the winners, the teacher invites the friends to return on a later occasion, on the condition that they learn more signs and practice more. During the lesson, the students are seen to smile a lot, make jokes, and obviously have a good time—just being friends having fun in class.

9.4. Summary

Summarizing the findings, I first found that the data contained various reports that told a story of the “friendship” teaching plan as a success.

- The “friendship” teaching plan had an effect on the students in their local school. This effect reportedly changed the typical ways in which the students participated in activities with their peers, suggesting a close connection between who they were (or could be) for others and the organization of participation.
- Inviting friends to the VME improved the deaf students’ opportunities for making themselves known (*by på seg selv*).

Observations show that the technological configuration was significant for the way in which participation was typically organized in the VME—an ecology that constrains but also enables new participatory possibilities—influencing the interactionally accomplished identity negotiations.

- The videoconferencing technology, through its design, was not initially made for video-*only*-mediated communication.
- With muted microphones, the technology was re-configured as a stable visually-oriented space, re-distributing the responsibility for putting all seeing participants on an equal footing, making participants' hearing abilities irrelevant for joint attention and the coordination of activities, and instead highlighting participation skills in this environment.
- The teachers chose and adjusted teaching formats to fit the affordances and purpose of the VME. Tasks were chosen that favored peer interaction and peer learning, which are vulnerable areas for many mainstreamed deaf students.
- Familiarity with the designs, templates, and teaching formats stabilized participation. However, learning how to participate in this environment implied becoming able to perceive the affordances and actively employ these to cooperatively design and adjust participation frameworks. This allowed for the non-conflictual intersecting identity position of "friend" across different systems for primary modality orientation.

Summarizing some of the identity negotiations accomplished by the students while they were cooperatively accomplishing the task given by the teacher, it was shown that:

- Being allowed to influence the content as well as the procedure of the upcoming lesson, the students suggested participation frameworks (a quiz, a shared narrative, presentation rounds) of relatively known formats and simultaneously established categories based on participation ability (skills level), rather than *dis*-ability.
- The proposals were contested, negotiated, and sorted out (based on the students' own experiences and imaginings of what their friends would enjoy), which drove the arrangement of participation details further. Thereby, they managed a possible de-stabilization of the chosen activity design.

- Stable participation was secured through cooperatively working out a procedure that dealt with who would do what and in what order in the various planned tasks—for instance through assigning and distributing the various actions (steps in the procedure) of different primary modality orientation to sequences.
- The technological configuration was taken into account when the students formed their utterances and imagined how their friends would act/participate within the VME.
- Giving the visiting friends an assignment (homework) in connection to the visit (to learn some basic signs in preparation) put the signing students in a new position vis-à-vis their friends that allowed for new patterns of participation in the mainstreamed setting outside the VME (e.g., via a tutor role). This increased the shared repertoire of resources for interacting and sustaining the friendship.
- The hearing friends got to experience what it was like to have to learn signed language in order to participate (while having fun doing it). Further, they found themselves in a similar situation as the other hearing friends of the other signing students (also new to the setting). Finally, they got to meet their deaf friend as a member of a collective, allowing the deaf friend to self-present in ways that were new to the hearing friend.
- Seeing the cooperatively crafted (successful) lesson in light of the preparation allows us to see a lesson in which the participants filled their part by coping with the actions that were expected of them, while the mediating technology evaporated into the background (as a stabilized environment). The students and friends were apparently having a good time, just being friends having fun in class.

9.5. Conclusion

Based on the findings, several implications for identity development, the role of technology, and inclusive education emerge.

Identity is accomplished in mundane everyday situated interactions. This chapter has entertained the idea that situated interactions in various environments stabilize certain identities and de-stabilize others. Participation in part-time education and a distance education program with other signing students can foster the development of a positive identity. However, when one is the only signing deaf student in a non-signing mainstream classroom, the meaning of deaf is not easily communicated, negotiated, or even allowed space, and this makes it difficult for deaf students to fully make themselves known. Meeting deaf students as a collective in a VME, on the other hand, provides non-signing friends the opportunity to glimpse who their signing friends are in the company of other signing friends. In the friendship exercise, the identity of “deaf” was re-negotiated (e.g., with the identities of “expert,” “leader,” and “skillful”) in quite extraordinary ways. This was a reversal of the role of “disadvantaged”—instead of “hearing loss” (in the case of the deaf students), there was “visual understanding loss” (in the case of the hearing students). A deaf world was created for the hearing students to enter and experience, and they loved it.

For this to happen, the findings imply that it is a prerequisite for these students to be able to develop signing skills and positive identities in a “segregated” environment in the company of other signed language learning students. In this chapter, it has been shown that a quiz friendship game contributed to bridging the gap between deaf and hearing students. The deaf students were very active in bridging this divide, and the teacher created an environment that was supportive to both deaf and hearing students. Application of the term “inclusive” to

mainstream classrooms is supposed to mean that the activities and classroom practices are adapted in such a way that all students can participate on their own premises. This chapter questions whether full participation on equal footing in joint activities in a mainstream classroom is possible in cases where there is only one deaf student and largely unshared sociolinguistic practices and participation frameworks that do not favor visually-oriented ways of communicating. However, this chapter has demonstrated that if great care is taken in crafting activities and tasks and their participation frameworks—that is, in ways that work against the identity of “disability”—participants might successfully foster positive identities as students and future members of Norwegian society *and* the signing deaf community.

Through the cooperative crafting of the successful organization of participation, the significant role played by the technology for identity (or who the participants were allowed to be for each other) became foregrounded. Demonstrating how the specific organization of participation is sustained by simultaneous co-occurring influences—such as the design of the mediating technology, the choice of templates for displaying participants, and the setup of teaching formats—reveals the dynamic, changing, and complex ways in which identity negotiations were accomplished by the participants in this VME. It was not the technology, but the ways in which the technology was exploited that made this lesson a success.

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10. Orchestrating Attention in Visually-Oriented Virtual Classrooms⁴

10.1. Introduction

This article discusses the orchestration of attention in a visually-oriented virtual classroom. I argue that the teachers' orchestration of students' attention in concerted activities in the classroom constitutes a critical skill in their professional practice. These skills acquire new importance in distance learning contexts where not all students share the same physical space. Teaching in videoconference-mediated settings implies a teaching environment that constitutes a "fractured ecology" (Luff, Heath, Kuzuoka, Hindmarsh, Yamazaki and Oyama 2003), which in turn challenges how students' visual attention is orchestrated.

In the multiparty mediated setting studied in this article, advanced videoconferencing technologies were used to set up a distance education program and a virtual classroom where separately located remote students could be taught together in a small class. The program was offered as a part of deaf education in Norway, and most of the participants were deaf or hard of hearing. Recent changes in Norwegian government policy have led to a situation where students with hearing loss have the right to be enrolled in a bilingual program, in which they learn both the majority language (Norwegian) and Norwegian Sign Language (NSL), even if they are not attending a school for deaf students. However, such students tend to be in a minority of one in their school. This has proved challenging to attempts to provide good bilingual development. The governmental agency Statped therefore set up a distance education program to provide sign language learning students with access to skilled teachers and other sign language learning students. The teaching was conducted in NSL, as well as

⁴ The paper is submitted online to Journal of Applied Linguistics and Professional Practice.
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11. Practices of Organizing Built Space in Videoconference-Mediated Interactions⁵

11.1. Introduction

This paper investigates practices used to address recipients during videoconference-mediated classroom interaction. In the classroom setting studied, the aim is to teach sign language to students. All students attend a shared, virtual classroom via a videoconference connection, each participating from his or her municipality school classroom.

In Norway, students with hearing loss have the right to a bilingual program through which they learn both the majority language of Norwegian and Norwegian Sign Language (NSL), even though they are not in a school dedicated to deaf students. These students are often the only ones in their school learning sign language, and this has proved challenging for efforts to foster good bilingual development. Therefore, a distance education program was set up so that these students can learn sign language in interaction with other students.

Despite the high quality of the video technology in the studied multi-party mediated setting—in terms of finely synchronized, high resolution images—participants may encounter problems making sense of displayed conduct when access to the environments in which they act is limited or constrained.

⁵ The article is published in the journal *Research on Language and Social Interaction*.

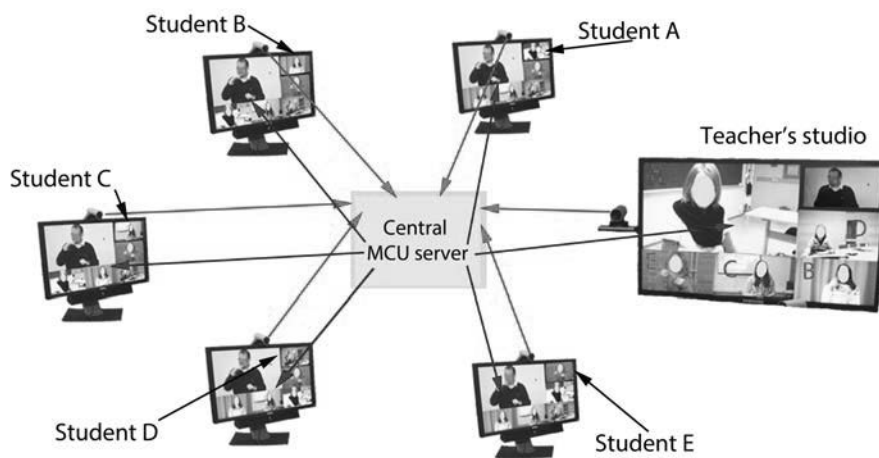


Fig. 11.1 Output from Multiple Conference Unit

Fig. 11.1 illustrates that the technology (the Multiple Conference Unit) returns different output to the teacher's and each of the (up to five) students' endpoints. In this environment, it is not possible for the students to know who the teacher is referring to based on the teacher's eye gaze or pointing, only.

For instance, a student gazing at the teacher as displayed on his or her own monitor will not see the teacher gazing back—even if the teacher *is* gazing (back) at this student on his or her own monitor. This is because the camera recording the teacher captures him or her from a different angle than the angle from which the teacher views the monitor. However, even if the camera were to record from the exact same position as the monitor, *this would still not solve the problem*. A gaze straight into the camera would make it *appear* as if the teacher and students achieved a mutual gaze, but because of the multi-participant (i.e., multi-location) setting, none of the students at the other ends would know the intended addressee for the

gaze—or point (because they would receive the same video image of the teacher; cf. Bohannon, Herbert, Pelz, & Rantanen, 2013 for a review of eye contact and video mediated communication). Adding to the complexity, the captured video content at each remote location is differently arranged on each of the participants' monitors and the positions the participants occupy on each monitor may be altered during the lessons. Such an environment undermines the participants' ability to make relevant sense of their co-participants' conduct. In much the same way, Luff and colleagues (2003) found that, in such environments, “a gesture or shift in bodily comportment may appear well on the screen, but how it emerges with regard to relevant features of its immediate environment is largely unrecoverable by the remote participant.” This can potentially lead to “fractured conduct—fractured from the environment in which it is produced and fractured from the environment it is received” (Luff et al., 2003, p. 55). This paper will primarily be concerned with how the fractured environment constrains the ways in which resources such as gaze and pointing can be exploited for establishing reliable addressing procedures amongst signers in a multi-participant video mediated environment (VME).

Teachers use various resources to select the next speaker in instructional settings (cf. Kääntä, 2010). In VMEs in general, certain problems may arise for teachers indicating whom they have selected as the next speaker. However, teachers face additional challenges when selecting the next speaker amongst signing participants in this VME, in which the microphones are muted.

Studies of classroom interaction have shown that, within teacher-dominated classroom talk, the teacher has a privileged position in controlling turn-taking and selecting the next speaker (Gardner, 2013). The interaction often resembles a two-party conversation, wherein the

teacher is one party and the other party comprises the students as a collectively constituted conversational partner (an assemblage of individuals as a single social unit), taking every other turn. This means that, after a student's turn, it is always the teacher's turn (Lerner, 1993, 2003; Sacks, Schegloff, & Jefferson, 1974). Teachers also typically need to single out individual students. In signed interactions within co-present face-to-face situations with few participants, it is sufficient to use only pointing and gaze to address or allocate turns to students (cf. Hayashi, 2013; Lerner, 2003). However, through my preliminary examinations of the data, I found that the teachers in this VME used other resources to select the next speaker. They accomplished this by using the student's "name-sign"—the sign given to the individual by the signing community (i.e., an "address term," according to Sacks et al., 1974, p. 717). Judging from the teachers' reports and the still limited research on signed language interaction, the use of name-signs as address terms does not seem to be a common practice in signed interactions with few participants. In line with Hayashi (2013)—who found, looking at spoken face-to-face interaction, that exceptions are situations in which the availability of the intended addressee may be problematic, or when a personal concern or some other stance (positive or negative) towards the addressee seems relevant—it is reasonable to think that the same exceptions can be found in signed interaction. The significant usage of name-signs in the data seems to indicate a sensitivity towards the fractured environment of the setting. The teachers sometimes simultaneously add pointing when performing the name-sign addressee specification, but since the environment renders pointing ambiguous, it is reasonable to conclude that it is the name-sign that singles out and addresses or selects the next speaker.

One teacher, however, initiates seemingly reliable addressing procedures in a way that is conspicuously different to that of the other teachers. This comprises the main finding of this paper, elaborated in section 4.3. There, I describe the ways in which the teacher combines

pointing and name-signs—according to his monitor’s layout and the VME, in order to suggest to the students a way of referentially navigating the interactional space of the VME. Doing this, he “maps” referential locations to each of the co-participants, allowing them to derive which displays of directions refer to themselves and to each of the others, and thus to respond accordingly. In this paper, I will refer to this practice as “referential mapping.” I will show how this practice constantly builds an interactional space by employing specific directions as resources for addressing and next turn allocations. At first glance, this practice resembles the phenomena described as “sign-spatial mappings” in sign linguistic research (e.g. de Vos, 2012). Sign-spatial mappings recruit the space in front of the signer (the signing space) to assign spatial locations to, for instance, persons being talked *about*—a commonly employed practice when referring to people *not* present. This can be done either by placing or directing a sign to a certain location in the signing space, or by combining a sign with pointing. The location can then be referred to using pointing only. What is new in the practice discussed in this paper is the use of such mapping in connection with procedures for addressing recipients and selecting the next turn co-participant speaker within the ongoing conversation. The teacher seems to initiate this method with great success as a way of capturing the students’ focused attention to the interaction. This practice is consistently employed throughout all of the seven lessons recorded, and I see the practice as an example of a strategy developed to deal with the VME.

11.2. Signed language interactions in multi-participant VMEs

In this paper, I apply a framework of embodied (or multimodal) interaction analysis (Streeck, Goodwin, & LeBaron, 2011) in order to investigate the challenge of speaker selection among signed language users; that is, speaker selection in a sign-exchange interaction system. The

framework aligns with the growing body of research applying conversation analysis (CA) to explore the ways in which people organize their bodily movements and talk, and how they interpret others' bodily movements and talk when interacting with one another in the material world. There is a fast growing volume of literature on the interactional use of multimodal resources (e.g., language, gesture, gaze, head movement, facial expression, body posture, object manipulation, technology and body movement within space), which shows that participants exploit both conventional forms and improvised and occasioned means to produce the intelligibility of their actions and coordinate with the actions of others (Mondada, 2013).

Signed language interaction

Research on the interactional aspects of signed languages are scarce, and there are even fewer studies on signed language interactions carried out within the conversation analytical tradition, applying a strict micro-analytic and sequential approach to the data. However, recently, a number of highly relevant studies have been published within the framework of CA (examples are: Bono, Kikuchi, Cibulka, & Osugi, 2014; de Vos, Torreira, & Levinson, 2015; Floyd, Manrique, Rossi, & Torreira, 2014; Girard-Groeber, 2015; Groeber & Pochon-Berger, 2014; McCleary & Leite, 2013; Warnicke & Plejert, 2012). While all of the cited studies deal with issues concerning turn-taking, to my knowledge, no study has explicitly focused on practices for addressing and next speaker selection in signed language interaction.

Sign linguistic research

Since the advent of linguistic research on signed languages in the 1960s, much effort has been invested in proving that signed languages are indeed real languages. We are now at a stage when we can confidently say: "Of course signed languages are real languages!" One of the

criteria for counting signed languages as real languages is their double structure—a characteristic of all languages. This means that signed languages are based on a system in which signs are built from smaller elements, and signs are combined into sentences or utterances. In the early days of signed language research, there was a perceived need to distance signed languages from gesture, in order to justify the linguistic status of signed languages as natural human languages (Kendon, 2008). This is no longer an issue (Cormier, Schembri, & Woll, 2013). However, there are ongoing debates within sign linguistics research concerning issues relevant to this paper. Here, I will only mention a few researchers (e.g., de Vos, 2012; Enfield, 2013; Johnston, 2013) who take a “composite utterance” approach to research on the body, language and communication. They place the debate about gestures, signs and interaction (e.g., pointing) in a wider lexicological and semiotic perspective than has hitherto been explored in sign language linguistics, which consequentially has the potential to bridge sign linguistic research with research on signed language interaction compatible with the CA tradition.

Embodied and multimodal interaction

An embodied and multimodal interactional approach to situated signed interactions differs from most linguistic approaches, in that there is no urgent need to clarify what belongs within and what is beyond “language,” because one of the basic tenets of the approach is that it assumes no a priori hierarchy among the constitutive pluralities of resources (Mondada, 2014; Streeck et al., 2011). An embodied or multimodal interaction approach to signed interactions allows one to see the various bodily components involved in “utterance visible actions” (Kendon, 2004) as distributed articulators, each with their own semiotic affordances for meaning making. Articulators involved in signed language interactions are hands, arms, the head, eyes, eyebrows, the mouth, shoulders and the torso. Kendon (2013, p. 21) suggests that

“in the process of utterance production the speaker forges ‘utterance objects’ out of materials of diverse semiotic properties,” often simultaneously juxtaposing them to construct coordinated actions (Goodwin, 2000, 2013).

As resources for interaction, both gaze and pointing are very important in signed language communication. They are resources that indicate (real or imagined) referents, to the extent that the context allows. While pointing has been under-analyzed in language description and language theory (Johnston, 2013), pointing has been extensively studied both in sign language linguistics and in gesture studies (e.g. Kita, 2003). Pointing actions are “extremely frequent” in signed language discourse (Johnston, 2013, p. 130), and are usually coordinated with eye gaze. The indexicality created in the act of pointing—realized in the form taken by the point—is made by a vector from the point of reference made using the articulator (usually characterized by an extended index finger hand shape) to the real or assumed location of a referent. In some cases, eye gaze may be the only vector-creating articulator used (Johnston, 2013). Also relevant for this paper are the findings that a speaker changes the orientation of his or her gestures depending on the location of the shared space between him or her and the addressees (Özyürek, 2002), and that pointing has been emphasized as one of the environmentally coupled gestures (Goodwin, 2003, 2007)—gestures that cannot be fully understood by participants without taking into account the structure in the environment to which they are tied.

Mediated signed interaction

A few, but relevant, studies have explored technology mediated signed interactions. Linguistic anthropologists (e.g., Keating, Edwards, & Mirus, 2008; Keating & Mirus, 2003) have studied online communication in the deaf community with signing conversants using

webcams to communicate across a distance. The studies demonstrate that new technologies such as the Internet and other forms of computer mediated communication are profoundly shaping aspects of communicative practice, language and social interaction. Tapio (2013) studied practices that FinSL (Finnish Sign Language) signers apply to their use of English in both educational settings and everyday situations beyond the school setting, including online environments. Based on her findings, she recommends that examinations of linguistic elements be conducted with a full multimodal analysis, particularly in learning and language education settings, where the scope should be wider and inclusive of other means of constructing meaning.

In this paper, in order to clarify the investigated practices (of addressing recipients and next speaker selection), I conduct a stepwise analysis in order to deal with the complexity of building “composite utterances” (Enfield, 2013) using Norwegian Sign Language for meaning making. First, I cover the phenomena of “simultaneity” and “sign-spatiality,” then I address how the investigated practices are embedded within and intertwined with the collective classroom activities. Finally, I show how one teacher employs innovative practices, using various signing and pointing actions designed specifically for the affordances of the layout in the VME in order to suggest to the recipients (i.e., the students) a way of referentially navigating the interactional space by mapping out referential locations in the signing space.

11.3. Methodology and data

The video data consists of the “classroom” interactions of five groups of students over a six-month period. Each “classroom” connects three to five separately located students to a teacher during a weekly sign language lesson. In total, 20 students and 5 teachers participated in the

study. Each group had a weekly, 45-minute lesson in the data collection period. From approximately 100 lessons in total, I received 67 lesson recordings. I collected informed consent from students, their parents and their teachers. The Norwegian Social Science Data Services (NSD) approved the study and I notified the Data Protection Official for Research.

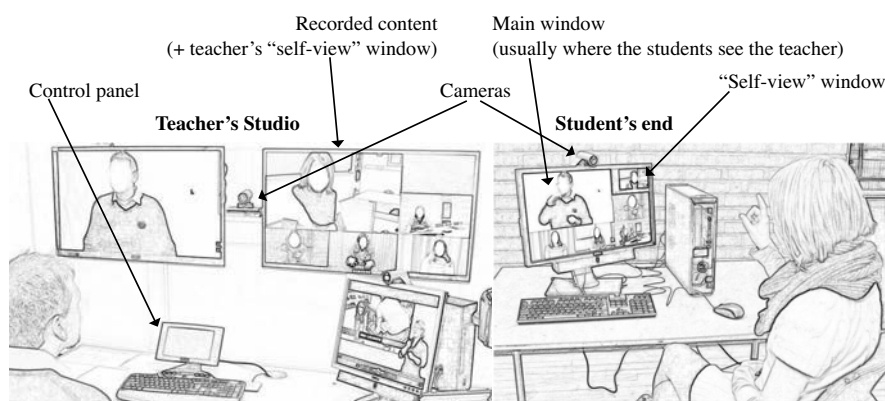


Figure 2. The left-hand image shows the studio at the studied school for deaf students. The right-hand image shows an example of a set-up at a student's local school.

Fig. 11.2 Virtual classroom environment

The recordings were made using a streamer that captured and saved into video files the contents of the large screen on the right-hand side in the left image (which included a self-view window showing the teacher in the upper right corner). All of the windows were visible on this one screen, with each window containing the same output that the videoconferencing technology distributed to the participants. No sound was transmitted through the technology. The template (five smaller windows and one bigger window) was hard-coded to be controlled by audio, and therefore all participants had to turn off their microphones.

There are no standardized practices for transcribing signed language interactions (Bono et al., 2014; Groeber & Pochon-Berger, 2014; McCleary & Leite, 2013). Consistent with most

signed language research, I relied on glossing, which uses written words that only approximately translate the sign. This transcription practice poses several methodological and conceptual problems (Groeber & Pochon-Berger, 2014). For instance, the signs of signed languages, with their spatially distributed elements (i.e., involving hands, arms, the body, head position and facial expression), often simultaneously combined, are not equally well transformed through graphically assembled letters represented by temporal unfolding lines in a transcript. Proposed solutions include adding more tiers in the transcription (Groeber & Pochon-Berger, 2014) and annotating gesture phase units (Bono et al., 2014). These solutions were used when I worked out various versions of transcriptions in order to render relevant distinctions. However, I chose to follow the recommendation to simultaneously keep an eye on how these distinctions could otherwise be presented to a reader as clearly and vividly as possible (Heath, Hindmarsh, & Luff, 2010, pp. 70–73). See the Appendix for the adapted transcription system.

11.4. Orders of signed interaction in VME

In the analysis section, for the purpose of coherence, I will use examples from the same one-minute video clip and will discuss salient points along the way. The clip is taken from the beginning of a lesson. The students had logged on to the virtual classroom first, finding that the teacher was late. When the teacher arrived, there was first some clarification of why he was late, and the teacher told a short humorous story of what had happened just prior to his arrival. The first sequence starts at the moment the teacher has finished the story and moves on, asking the class how they are doing (Fig. 11.3). The students reply that they are all fine. The teacher says he can tell from their smiles (he is referring to the fact that they were all smiling and laughing as he told his humorous story). Then the teacher goes on to ask whether

they have a lot of homework (Fig. 11.4). The teacher sees the students only once a week for 45 minutes. The students respond almost simultaneously and the teacher focuses on their different answers. Here we can see the first instance of the teacher mapping locations in the visible area in front of him, using pointing supplied with additional information. Then, a more elaborate version of what can be called referential mapping occurs (Fig. 11.5). In this mapping, the teacher takes advantage of the students' different responses and uses them to tease one of the students who has said he has little homework. What is seen here is the work that makes reference possible later on. That is, the worked out referential map creates a common ground for the rest of the sequence (Fig. 11.6), and when a local teacher (a bystander to the lesson) joins in on the teasing, all addressing and next turn speaker allocating is done through pointing, only.

11.4.1. Simultaneity and sign-spatial mapping

In order to explain how the referential mapping is accomplished, I first find it useful to cover some features of signed languages that are involved in the mapping practice. Various forms of “simultaneity” can be seen in signed language interactions (cf. Vermeerbergen, Leeson, & Crasborn, 2007); for instance, when signers draw upon a range of articulators to make simultaneous constructions. Linguists typically divide the elements of signs and utterances into manual and non-manual elements. The lexical unit—the manual sign—always consists of a combination of hand shape, orientation, location and movement.

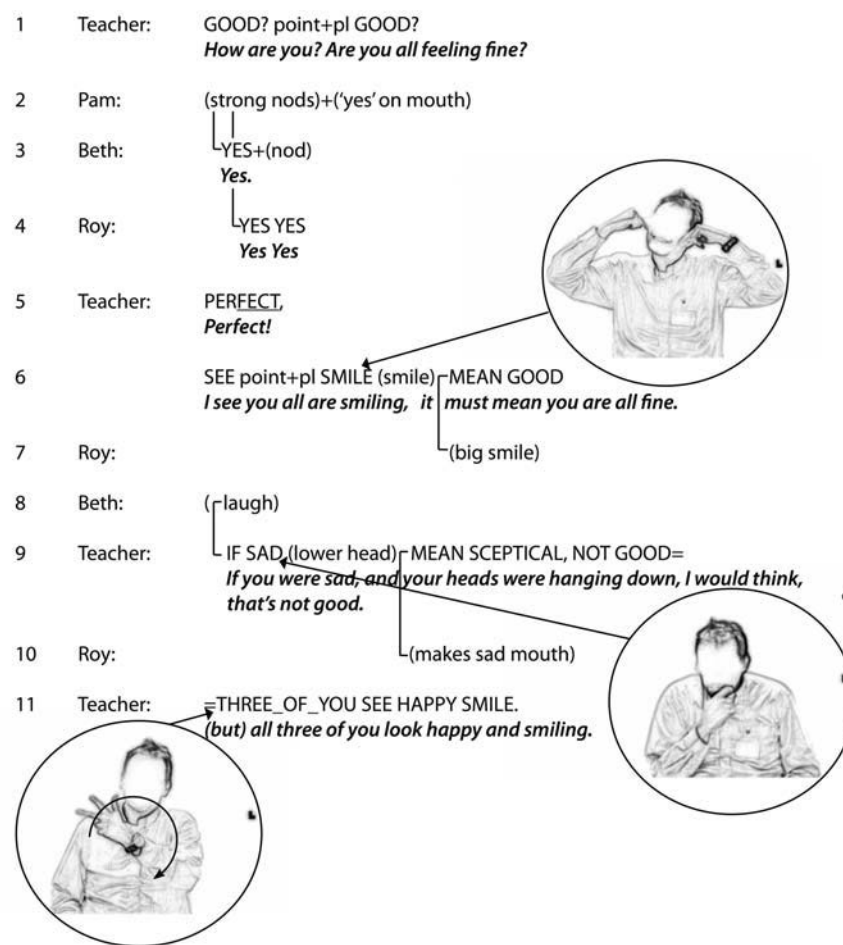


Fig. 11.3 Transcription: "Simultaneity" and "sign-spatial mapping"

In Fig. 11.3, the sign GOOD?, performed by the teacher (in line 1), is a one-hand sign: a flat hand shape with the fingers facing upwards and the palm inwards, with a starting position with the fingers placed at the chin. The hand is then moved forward and downward, ending in a position with the palm facing up and the fingers pointing away. This end position is held briefly. However, non-manual elements also play a part. With his eyebrows simultaneously lifted, the teacher marks the manual sign as a question. This realizes a strong action projection and an expected second pair part. One might easily assume that the sign GOOD? is here

directed at all of the students. However, after the first sign, the teacher immediately performs a pointing sign with his index finger (the “classic” pointing hand shape), which he swipes from left to right, indicating that he is addressing all within the pointing direction (the added +pl is to indicate a plural “you”). Notice that, since the swipe encompasses the direction captured by the camera, it should be *unambiguous* that all of the students are included as addressees of his question. After the plural point, the teacher repeats GOOD? in the same way. I suggest that the point and sign GOOD? (since GOOD? would be sufficient alone) is a specification or elaboration of the first sign, and thus it can be seen as a self-initiated self-repair. It removes the initial potential ambiguity, and makes it more clear that the question is addressed to the class as a whole, and that anyone can make a bid to speak. The teacher’s eyebrows are lifted throughout the turn, contributing to the interpretation of the whole utterance action as a question.

The students all respond in a confirmative way, however in slightly different ways. Only two of them (Beth and Roy) manually respond YES; Beth responds with a manual YES and a nod, while Pam responds only with distinct nodding. This demonstrates the embodied/multimodal argument that, what accomplishes an action is flexible and can be performed by various means. In line 5, the teacher acknowledges the response: (translated to) “*Perfect!*” The exclamation is realized through the adjustment of the simultaneous movement, performed quickly with a kind of bouncing back movement.

In line 6, another plural point is made. This time it is not to allocate the students as next speakers, but to address them, when the teacher says he can see that they are all smiling. However, as in the turn allocation in line 1, there is *no* ambiguity about who is included in his address.

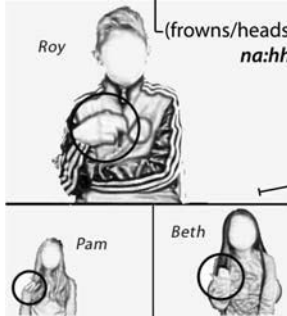
Also relevant for the procedure in which recipient address and next speaker selection is accomplished is the phenomenon described in sign language linguistics as “sign-spatial mapping.” This refers to the way in which signed languages recruit space in talk (e.g., de Vos, 2012). The spatial, semiotic strategy of “sign-spatiality” concerns the various ways in which signers imbue the signing space (i.e., the articulatory space that surrounds them) with meaning (de Vos, 2012). In the domain of person reference, all signs that imply a direction towards the perceived locations of referents are sign-spatial, including pronominal pointing signs, agreement verbs and body shifts to indicate different referents. Put more simply, signers may produce pointing signs, by which means they ascribe a referential meaning to a designated area of the signing space (de Vos, 2012).

An interesting case of using space and direction that is relevant for the variability of pointing actions can be seen in line 11 of Fig. 11.3. The sign glossed THREE_OF_YOU (see image in line 11) illustrates the ability in signed languages to make inclusive/exclusive “pronouns.” The number of extended fingers in the hand shape indicates the number of referents included (e.g., TWO_OF_X or FOUR_OF_X), and the direction and movement of the sign indicate who is included/excluded by it (e.g., TWO_OF_US or TWO_OF_THEM). The example here, THREE_OF_YOU, exploits signing space in that the hand shape is placed away from the teacher and towards the screen, where a circular movement includes the students. Notice how, in terms of being an addressing action, this is similar to the previous pointing swiping index finger. However, what makes this particularly interesting for the treatment of addressing practices in VMEs is the way in which the teacher performs the circular movement. If this sign were to be performed in a co-present face-to-face situation with students distributed in a classroom space in front of the teacher, the circular movement would likely be made

horizontally. Instead, the teacher here adjusts to seeing the students spread out on a vertical surface of a screen, which means he adapts this sign to the affordances of the VME. As will be demonstrated later in this paper, this is coherent with his practice of mapping areas referring to each of the students.

Common to all of the teacher's instances of addressing the students in lines 1, 6 and 11 is his addressing of the students as an assemblage of individuals (Lerner, 1993) by using the general direction towards the camera to refer to them all.

11.4.2. The teacher's actions and conjoined participation

12	Teacher:	MUCH WORK+det SCHOOL, WORK+hard, MUCH WORK+long (blink), <i>do you have much work at school, do you work hard, is it a lot of work?</i>
13		MUCH HOMEWORK point+pl? MUCH HOMEWORK? <i>do you have lots of homework to do, lots of homework?</i>
14	Roy:	 (frowns/headshake) NOT_SO, NO:: * (smile) <i>na:hh, not really no</i>
15	Pam:	(frown) YES:: (nod) <i>well, ye:s.</i>
16	Beth:	YES+(smile). <i>yes.</i>
17	Teacher:	YES+(nod) point+beth? point+pam (nod)? point+roy (neg)+ROY <i>is that so, you do, and you, but not you Roy?</i>
18		VERY_LITTLE::(0.5) point+roy LITTLE HOMEWORK point+roy?:: <i>so you have very little? you have little homework?</i>
19		LITTLE::(1.0) point+roy?:: <i>you have little? (1.0) do you?</i>
20	Roy:	(nods) VERY_LITTLE (smiles). <i>yes, very little.</i>
21	Teacher:	(strong nod) point- ((short)) <i>okay</i>

* keeps hand raised, repeats stroke 12 times within 6.7 seconds overlapping with following turns.

Fig. 11.4 Transcription: Conjoined participation

In the above sequence (Fig. 11.4), the whole turn in lines 12 and 13 takes over six seconds to produce. The teacher starts by signing MUCH and, at the same time, moving his head slightly forward and tilting it to the side, and raising his eyebrows—all of which mark this as a question. In the next sign, WORK (of which the manual part is performed with two clenched fists, palms facing inwards, banged one on top of the other twice, in neutral signing space), he furrows his eyebrows and raises his shoulders when performing the sign, and closes his lips

tightly; these factors modify the sign to indicate that the work is done with determinacy (thus transcribed WORK+det). In the next sign, SCHOOL, if he again had raised his eyebrows he could have indicated a complete question (utterance). However, he now continues to a slightly different way of doing the sign for WORK, still with his eyebrows furrowed. This time, the sign is done with his lips still tightly closed, and also with a nose frown. The movements in signing WORK have changed. This time, they are bigger and have a manner of movement that includes a short stop at the end of each meeting of the fists, and a small head movement (a nod) follows each stroke (three this time). This modifies the sign to indicate the meaning: work hard (thus, WORK+hard). He then does the sign for MUCH again, still with his eyebrows furrowed, and next, he performs the sign for WORK in a third way. This time, his manual movements are again more continuous; each stroke (six this time) is accompanied by a mouth movement borrowed from the word for work (*arbeid*) in Norwegian—or, to be precise, just the first syllable (*arb*). This modifies the sign to indicate the meaning: work for a long time (thus WORK+long). At this point, he blinks, and again he signs MUCH followed by the sign for HOMEWORK (which is incidentally completely different from the sign for WORK), and follows this with a plural pointing, as described above. After a very brief hold of the point in its end position, he repeats MUCH HOMEWORK. In the middle of performing the sign for homework the first time, he raises his eyebrows. Immediately following, the student in line 12 starts to move in what can be seen as a preparation for a response. The two other students follow shortly after, and the students' (manual) responses are produced almost simultaneously, all overlapping with the final parts of the teacher's turn.

This shows that the students are able to recognize and anticipate the completion of the turn. Previous research (e.g., Bono et al., 2014; Sacks et al., 1974) has demonstrated that conversational partners (signing or speaking partners, alike) can anticipate turn completions.

Lerner (1993), who investigated “collectives in action,” found—among other phenomena—that teachers can specifically design their talk to generate choral or simultaneous response. The above example does not qualify as a choral response. However, I suggest that the teacher’s elaborate question is deliberately designed to have the students produce their responses at the same time, as an ensemble. As long as the teacher keeps his eyebrows furrowed, he is not yet signaling the completion of the question. Raising his eyebrows will signal that completion is coming up. Because the students and the teacher are not physically co-present, I argue that the teacher uses particular strategies to gain a sense of unified space through various resources and through his own use of signing space. The marked visible contrast between furrowed and raised eyebrows allows the students to orient well to relatively small features within the VME.

Roy and the others notice right away that Roy’s response is the opposite of that of his classmates. This we can see by the way he (in line 14) immediately starts to smile, and keeps repeating the NO sign. In fact, he repeats it 12 times (or, to be precise, he does not retract his hand, but keeps it lifted in the same position and repeats the stroke 12 times), while smiling and shaking his head. This lasts for 6.7 seconds, until he notices that the teacher has flipped the question around and changed the polarity of the question. The congruent response would now be YES (he does not have much homework). Designing talk in order for the students to produce a simultaneous response also prevents students from simply copying other students’ responses. Further, it appears to create a dyadic framework in the midst of a multi-party framework, as in other classroom interactions. That the teacher engages the students in this way, I suggest, is deliberate and serves a purpose. If the students come up with diverging answers, this can be used to create a discussion and to find suitable topics to talk about—as we have seen in this example.

11.4.3. Providing a solution to a fractured ecology

The following section is about the procedures used to create a “mapping” of the VME that permits addressing of and by participants, and consists of the main finding of this paper. As we have seen, addressing the students and allocating turns to them as a collectively constituted conversational partner are not necessarily constrained by the technological configuration. As we saw in line 11 (Fig. 11.3), there are variations in the ways in which collective addressing can be accomplished, and we saw that an adjustment was made that capitalized on certain conditions of the particular environment. In the following, more specific addressing and turn-allocation in the fractured ecology will be demonstrated.

In line 17, we can see the first mapping of locations that will be relevant for the conversation, and the connection of these locations to each of the students. In the sequence in lines 17–21, in what can be seen as a follow-up to the different responses given in lines 14–16, the teacher asks for confirmation of whether he has the right understanding. The first mapping of the location of each of his interlocutors is performed through a long continuous point. In line 17, first there is a deep nod together with a manual YES and a lip movement, which indicates that this is a response token such as “Ah-hah,” or, as I have translated it, “Is that so?” Then he points in the direction of where he sees Beth, makes a nod and, without retracting his pointed finger, moves it over in the direction of where he sees Pam, and makes a nod. Still not retracting his pointed finger, in an almost continuous movement, he now moves the extended point upwards in the direction of where he sees Roy, and this time he shakes his head. Therefore, what we see here is one extended point (almost) continuously moved between three positions, combined with two nods and one head shake (I suggest a translation could be: “Down here and here is yes, and up here is no”). The teacher continues to hold the point in Roy’s direction and he now adds the name-sign (“address term”) ROY with the other hand,

and briefly holds (compare with Groeber & Pochon-Berger, 2014, for their study on holds). Only after 2.3 seconds does the teacher retract the point. Because it is not retracted, I suggest that the whole pointing action should be seen as one gesture that acquires its meaning through the locations it stipulates and the nodding. The final hold is very brief, and the moment the teacher retracts the pointed hand, he does (in lines 18–19) a series of (four) repetitions of “questioning” in pursuit of “the right” answer. All of the (three) points in lines 18–19 are performed with the same hand as the signing hand, and are therefore not employed simultaneously with the signs.

In the next transcript (Fig. 11.5), a more complete referential mapping is demonstrated.

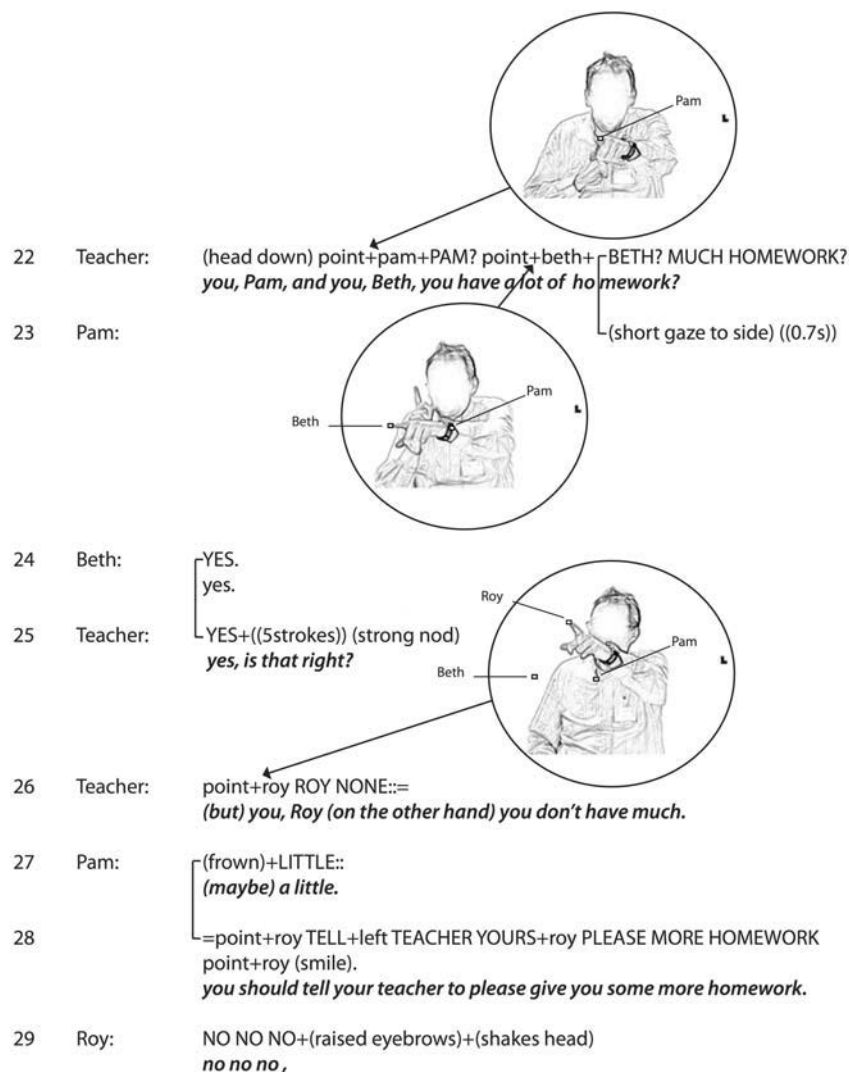


Fig. 11.5 Transcription: The mapping practice

Here, the teacher initiates another mapping, first (in line 22) by a point in the direction of where he sees Pam while simultaneously signing her name with his other hand. He also lowers his head so that his gaze and index finger become more in line with one another and the location at which he is pointing. This shows clearly that he is “activating”—adding more cues, so that the direction is the focal point or significant. He then moves on to do the same in

the direction of where he sees Beth (see images in Fig. 11.5), and then he forms the rest of the question. The clearly marked focal direction in the point (in line 26) and the immediately following name-sign map a particular position as a salient referent within this built interactional space.

Notice that, from the teacher's perspective, he simply points at the parts of his monitor where each of the students are seen, in successive order, simultaneously adding a name-sign with each point. However, for each of the students the video image displaying the teacher is identical at each end and occupies the same "big window" position on the students' monitors. The intriguing bit here is that the referential mapping implies that the students learn to see a point going in some direction—not towards him or her—as referring to just him or her. The data shows that it is the pointed-at student, and *not* any of the others, who responds immediately after the point. Such responses, as well as additional subtle cues given off by the students, are the basis on which the teacher can judge whether his mapping practice is properly received by the students.

Scrutinizing the students' orientations leads to several conclusions. First, by the clear and concise "yes" (in line 24), Beth makes a relevant response in the relevant place, and thus clearly displays that she is following along. Second, Pam makes a very subtle freezing body movement right at the moment the teacher points and signs her name, indicating that she notices being addressed. But when the teacher immediately moves on with a point and a name-sign in Beth's direction (right at the stroke movement of Beth's name-sign), Pam (in line 23) makes a brief gaze to the side, towards "real space" (cf. Keating et al., 2008). The gaze is however returned within less than 0.7 seconds, right at the end of the teacher's sign MUCH; thus, she probably did not miss a lot. After the teacher's sign HOMEWORK, Pam

blinks—an indication that she recognizes this as a complete turn. However, this is also the exact moment when Beth starts to move to produce her response. There is a subtle change in Pam's gaze direction (for approximately 0.9 sec.) during Beth's response (in line 24), indicating that she notices Beth's response. And right after the teacher completes the deep nod in line 25, Pam blinks again. My interpretation of this is that Pam is following along too, but her gaze-shift might have left her a bit behind; this explains why only Beth responds to the teacher's understanding check addressed to both of them. Later (line 27), Pam initiates a modification of her initial response (in line 15, Fig. 11.4). However, even though she produces it at a transition relevant place, it is not followed up on by any of the co-participants. Third, Roy also produces visible cues that he is following; that is, he makes a very subtle change in his smiling/facial expression instantly after the teacher points in his direction in line 26. The above observations not only show that for the recipients the mapping practice seems to work with no signs of confusion, but they also suggest that mapping is a *collaborative practice* that trades on the recipients' orientations.

Also notice that, it is the teacher's *simultaneous* employment of the name-sign and the point that specifies who is being referred to (cf. Broth, 2011, and the role of participants' names in a TV mediated setting). This way of adding sight and meaning to locations in signing space is known from sign-spatial mapping used extensively for various *other* purposes. What is innovative here is to involve referential mapping in connection with procedures for addressing recipients and next turn co-participant speaker selection *within an ongoing conversation*. It is neither the teacher's singular point nor the naming of the recipient (the student) separately that allows the students to work out the referential locations, but the way in which these are used together in order to form the mapping procedure. It is the specific mapping of locations in the interactional space—through a relatively close successive

connecting of points, one after the other, to different locations in the visual field and linked with a specific student—that actually builds the interactional space.

After the directions are carefully mapped, the teacher does not use name-signs again for the rest of the sequence discussed in this paper. In line 28, the teacher makes a joke to Roy that he should tell his teacher to give him more homework. Here, direction is employed four times to add meaning to what the teacher says. There are two index finger points (first and last in the turn) in the direction of Roy's location. Then there is a possessive, *YOURS*, which involves a flat hand with the palm in the recipient's direction. The sign *TELL* can also be seen to be modified in agreement with Roy's location. Roy disapproves of the teacher's suggestion.

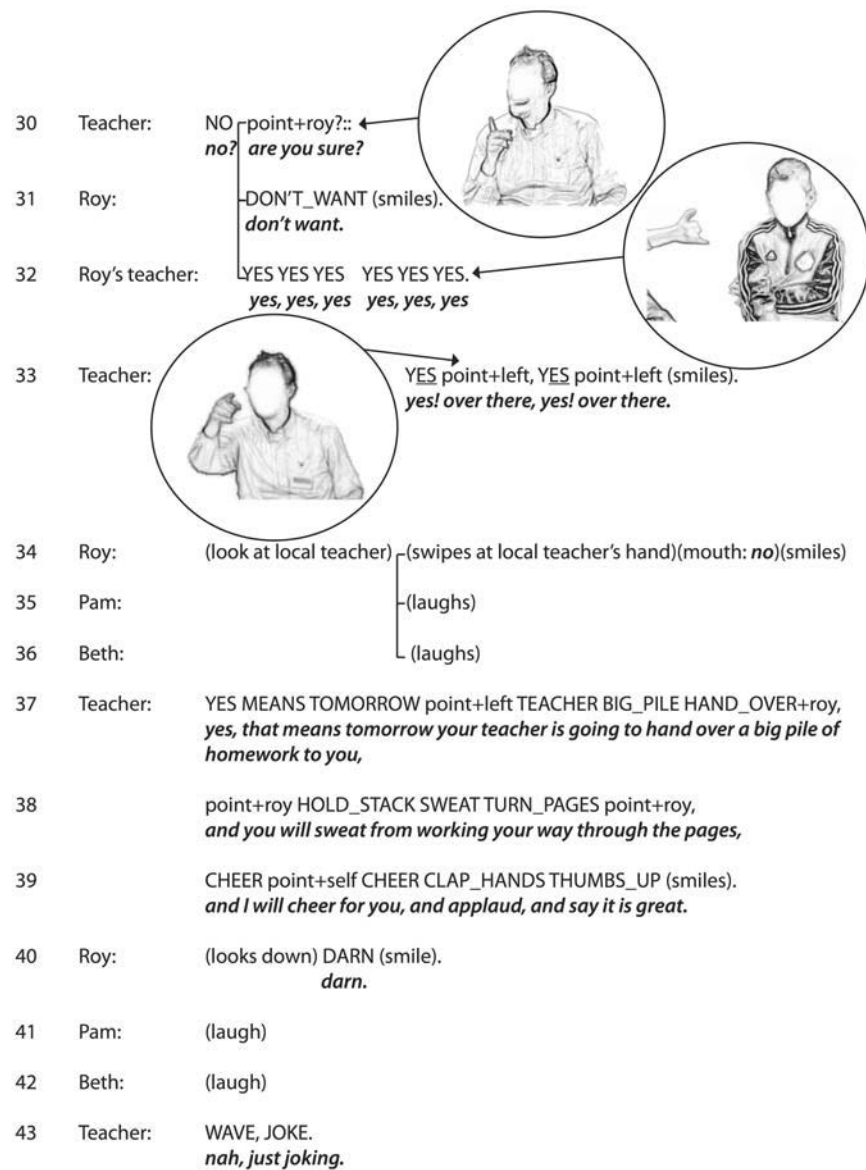


Fig. 11.6 Transcription: "Pointing-only" forms of reference

In line 30 (Fig. 11.6), the teacher follows up with only a NO and then a hold using a finger point (see image in line 30, Fig. 11.6), with his head and torso slightly forward, while shaking his head. Even if this held sign/gesture is not only employed for pointing out a direction, the

reason it unambiguously specifies who is expected to act next is that the mapping has been done in advance. Roy replies (in line 31) that he doesn't want any (homework).

Roy's local teacher, sitting outside the camera angle and up until now not visible, makes herself visible and joins the teasing (in line 32) by showing only her hand on camera saying YES, repeated with six strokes (see image in line 32). What should be noticed about the response of "our" teacher in line 33 is that, although he says only YES and a point (repeated twice), his point introduces a new referent—Roy's local teacher, and this is shown only by a slight change in the direction of the point (see image in line 33). This point derives its meaning through gaze (and head) direction, which is still towards the location dedicated to Roy.

Another example is what is an extended turn. The teacher gives a scenario of what will happen tomorrow. When he says this, he again (as in line 33) points slightly to the left of the location mapped to reference Roy, in order to refer to Roy's local teacher. Then (in line 37), he enacts Roy's teacher handing over a pile of homework to Roy. This handing over is also realized by involving the direction slightly upwards in Roy's direction. Then the teacher animates the sequence through role shifting, taking the perspective of his student (in line 38) in order to enact the student working his way through the pile; he shows sweat running down his forehead as he flips through pages of homework. Two points before and after show that Roy is the one being enacted. Also in the final line (line 43), the teacher waves this off as a joke in the direction of Roy's location. Because of the mapping, the meaning of all pointing and directional signs is clear and unambiguous in this context, even when the teacher introduces a new reference only by pointing.

Observing the students' facial expressions—which can indicate uptake—it can be seen that Pam and Beth just smile during the teacher's teasing (lines 37–39), while Roy's facial expressions (for instance, a subtle “sad lip” just as the “teacher” hands over homework in line 37) indicate that he positions himself as the recipient of the teacher's actions.

11.5. Discussion

Multiple kinds of fractured conduct can arise in VMEs. Multi-location VMEs pose challenges to interactional conduct by influencing the way in which certain resources involving direction can be employed. For instance, multi-location VMEs do not allow speakers to meaningfully single out one participant among others by using only a gaze at, or a point towards, the (perceived) recipient. Such constraints are consequential for signed interaction due to the usually extensive use of pointing and other signs that imply direction. This suggests that certain actions are adjusted when signing participants interact in this particular environment. This paper has investigated practices used to address recipients in signed interactions in a videoconference-mediated distance education classroom within deaf education. Although it was found that all teachers make extensive use of the students' name-signs (i.e., address terms) to address or select the next speaker, within one teacher's class, addressing and next speaker selection are accomplished in a conspicuous manner. The examples presented in the transcripts demonstrate a practice of referentially mapping recipients in the visual space.

The signer localizes a specific spatial direction for each of the co-participants according to the signer's own perspective. This is accomplished through simultaneously combining a name-sign with a point towards the location in which each participant is seen, done successively—towards one recipient following the other to include them all, so that interlocutors can derive

which display of direction refers to them and to each of the others, and hence respond accordingly or give off discernible coordinated cues that display they are following along.

The detailed analysis of how the teachers and students interact in this VME demonstrated that various pointing practices and engagement of the students as a collective does not actuate referential mapping. Rather, referential mapping is a procedure specifically initiated for meaningfully singling out (i.e., addressing or selecting) individual students among others. It demonstrates the teacher's sensitivity towards the way in which signed utterances are received by the recipients in a fractured environment, and how the built actions are environmentally designed for recipients who are not "really" there, but only virtually there. This means the practice becomes a way of referentially navigating the interactional space of the VME, allowing participants to manage the "fractured ecology" of a multi-party VME. Thus, it serves as a solution to the "deictic" complexity of non-shared spaces.

The way in which the referential mapping is accomplished shows that it is not done as a separate activity, but managed in the ongoing conduct of interaction. It is embedded in and intertwined with other activities, such as the teacher's understanding checks—in asking questions to the class as an ensemble or to individual students, or teasing a student by telling him he will be given loads of homework. What the teacher and students need to work out are the indexical references and relationships that sustain and constitute particular utterances, signs and gestures as referential mapping. Only one teacher initiates such mappings and none of the students is (yet?) seen to initiate this practice. However, the practice should still—through the students' visible embodied orientation to the teacher's elaborate pointing practices—be seen as a collaborative constitution that gives a shared sense of the

interactionally built space. Once worked out, the mapping is an oriented-to organization that allows for “pointing-only” forms of reference.

As was shown, the worked out and oriented-to referential mapping provide the participants new ways of coordinating the locations to which each of them is visibly attending and what they are attending to. Thus, the mapping practice should not only be seen as a procedure for addressing and allocating the next speaker, but also as something that contributes to the shaping of a “participation framework” (Goodwin & Goodwin, 2004) in a complex VME. Such interactionally worked out displays of “mutual” orientations have a different temporal organization than do other elements of talk, and constitute an “embodied participation framework that can be sustained over extended stretches of talk and action” (Streeck et al., 2011, p. 2). The practice seems to tie together or “tie in” the students as co-participants and allow for more recipient-designed utterances that involve direction. The utterances are not only recipient-designed, but also environmentally designed or designed for recipients whose bodies are represented by technological means.

While all five participating teachers in this study are fluent signers, the involved teacher in this paper is the most experienced among them. He also has a reputation of being an engaging teacher who is particularly popular among the students. It does not come as a surprise that he is the teacher who “came up with” this conspicuous practice.

Coming to grips with the details of the practices in this multi-party mediated setting is not only relevant for signed interactions. Understanding what such practices do brings our attention to and adds to our knowledge of some of the general challenges people face when communicating over distance. Studying how signed language users deal with the specific

affordances offered by visual means can add to our understanding of the specific challenges presented by the visual side of conduct in mediated settings that include both video and audio. Such investigations have relevance even beyond mediated settings:

Ironically, what studies of advanced media spaces may crucially reveal is not so much the inadequacies of the technological solutions so far developed but more how little we still understand about the moment-to-moment accomplishment of everyday work and interaction. (Luff, Patel, Kuzuoka, & Heath, 2014, p. 328)

This paper contributes to our understanding of the ways in which participants tie situated actions to structures in the environment, and how meaning making is coupled with the environment through environmentally coupled gestures (Goodwin, 2007). The paper shows that “fractured ecologies” can work as “prisms” that make constituent parts of the environment “visible.” Through studying the ways in which practices are appropriated to build cooperative actions in such environments, features of everyday life environments that are usually taken for granted become discernible. Communicating by visual means in a virtual classroom makes it clear that, in order for our gaze and pointing to be meaningful resources for addressing and turn allocations, they depend on a space that gives meaning to direction. That we often depend on locationally distributed bodies in order to make sense when taking turns in everyday co-present talk tends to be taken for granted.

Appendix

Adapted transcription system:

CAPITALS	gloss for manual signs
(action)	salient visible actions not easily glossed
HAND_OVER	underscore, when more glosses are needed to cover the meaning of the sign
+ xxx	adds information about a salient modified aspect of a sign (e.g., a direction)
::(x.x)	indicates a sign is prolonged, as in holds; parenthesis shows duration
((comment))	comment to a transcription

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Appendix 2: Documentation of permission

Norsk samfunnsvitenskapelig datatjeneste AS
NORWEGIAN SOCIAL SCIENCE DATA SERVICES



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Vår dato: 20.09.2011

Vår ref: 27784 / 3 / LMR

Deres dato:

Deres ref:

TILRÅDING AV BEHANDLING AV PERSONOPPLYSNINGER

Vi viser til melding om behandling av personopplysninger, mottatt 23.08.2011. Meldingen gjelder prosjektet:

27784	<i>Avstand ingen hindring? - Hørselsbemedde elevers læring av tegnspråk ved bruk av ny kommunikasjonsteknologi</i>
Behandlingsansvarlig	NTNU, ved institusjonens overste leder
Daglig ansvarlig	Johan Hjulstad

Personvernombudet har vurdert prosjektet, og finner at behandlingen av personopplysninger vil være regulert av § 7-27 i personopplysningsforskriften. Personvernombudet tilrår at prosjektet gjennomføres.

Personvernombudets tilråding forutsetter at prosjektet gjennomføres i tråd med opplysningene gitt i meldeskjemaet, korrespondanse med ombudet, eventuelle kommentarer samt personopplysningsloven/-helseregisterloven med forskrifter. Behandlingen av personopplysninger kan settes i gang.

Det gjøres oppmerksom på at det skal gis ny melding dersom behandlingen endres i forhold til de opplysninger som ligger til grunn for personvernombudets vurdering. Endringsmeldinger gis via et eget skjema, http://www.nsd.uib.no/personvern/forsk_stud/skjema.html. Det skal også gis melding etter tre år dersom prosjektet fortsatt pågår. Meldinger skal skje skriftlig til ombudet.

Personvernombudet har lagt ut opplysninger om prosjektet i en offentlig database, <http://www.nsd.uib.no/personvern/prosjektoversikt.jsp>.

Personvernombudet vil ved prosjektets avslutning, 31.12.2014, rette en henvendelse angående status for behandlingen av personopplysninger.

Vennlig hilsent

Vigdis Namtvedt Kvalheim


Linn-Merethe Rød

Kontaktperson: Linn-Merethe Rød tlf: 55 58 89 11
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Utvalget består av totalt 18 hørselshemmede elever på 6. til 10. trinn ved ulike skoler, som får undervisningstilbud via et kompetansesenter, samt tre tegnspråklærere ved senteret. Data samles i første omgang inn via opptak av undervisningen. På et senere tidspunkt skal det foretas gruppeintervju.

Prosjektleder bekrefter at det kun tas opptak av elever som har samtykket til deltakelse i forskningsprosjektet, jf. telefonsamtale med prosjektleder av 15.09.11.

Rekruttering og førstegangskontakt foretas via kompetansesenteret, som sender ut informasjonsskriv til foreldre og elever. Det innhentes skriftlig samtykke fra begge parter. Personvernombudet finner informasjonsskrivet som forelå 16.09.11, tilfredsstillende.

Ombudet ber om at informasjonsskriv til utvalget vedrørende gruppeintervju, samt intervjuguide, ettersendes i god tid før oppstart av intervjurunden.

Prosjektet skal avsluttes innen utgangen av 2014 og innsamlede opplysninger skal da anonymiseres og videoopptak slettes. Anonymisering innebærer at eventuelle direkte personidentifiserende opplysninger som navn/navneliste slettes, og at indirekte personidentifiserende opplysninger (sammenstilling av bakgrunnsopplysninger som f. eks. bosted, alder, kjønn) fjernes eller endres.

Appendix 3: Information and consent



Det humanistiske fakultet
Institutt for språk- og kommunikasjonsstudier

Vår dato 16.09.2011
Deres dato
Vår referanse "Avstand ingen hindring?"
Deres referanse

1 av 3

Deltakere i prosjektet "Grenseløs Læring" og deres foreldre

Informasjonsskriv og samtykke til deltakelse i forskningsprosjekt

I tilknytning til "Grenseløs læring" er det planlagt et forskningsprosjekt, "Avstand ingen hindring? – Hørselshemmede elevers læring av tegnspråk via ny kommunikasjonsteknologi", finansiert av Det humanistiske fakultet ved Norges teknisk-naturvitenskapelige universitet, NTNU.

Forskningsprosjektet skal utføres av PhD-stipendiat Johan Hjulstad ved Institutt for språk- og kommunikasjonsstudier ved NTNU. Veiledere i prosjektet er førsteamanuensis Julie Feilberg og seniorrådgiver Aase Lyngvær Hansen.

Målet med forskningsprosjektet er å få mer kunnskap om muligheter og begrensninger som undervisning av tegnspråk via videobasert kommunikasjonsteknologi gir, samt å beskrive nærmere hva som skjer i denne typen undervisning. Kunnskap som fremkommer av forskningen vil være nyttig for kompetansemiljøene på en rekke områder, som for eksempel for tegnspråkopplæring av hørselshemmede elever, opplæring av foreldre og lærere, tospråklig opplæring, læreplaner i tegnspråk, utforming av didaktikk og produksjon av læremidler.

Forskningsprosjektet har som hensikt å synliggjøre *hvordan* deltakerne går frem når de mestrer samhandling og lykkes i å lære, og det er *ikke* i prosjektets interesse å påpeke eventuelle feil den enkelte deltaker gjør eller å vise hva denne ikke får til. I "Grenseløs læring"-prosjektet vil 4 grupper med 5 elever i hver få undervisning i tegnspråk. Forskeren ønsker å få tilgang til videoopptak fra de gruppene hvor alle har samtykket til deltakelse, men kommer til å følge én gruppe spesielt. Mot slutten av prosjektperioden (våren 2012) tas det også sikte på å gjennomføre gruppeintervju med denne gruppen for å få tak i elevenes og lærers og opplevelse av denne typen undervisning. Forespørsel om samtykke til deltakelse i intervju sendes ut senere, sammen med en intervjuguide.

Ved å underskrive vedlagte svarskjema – og returnere det til Møller-Trøndelag kompetansesenter i vedlagte ferdigfrankerte konvolutt – samtykker dere til at forskeren gis tilgang til opptak av et utvalg av de undervisningstimene som foregår via videokonferanse i løpet av skoleåret 2011-2012. Videoopptakene vil utføres av teknikere ved Møller-Trøndelag kompetansesenter, og forskeren vil

PhD-stipendiat	Postadresse	Besøksadresse	E-post:	Telefon
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være den eneste som vil ha tilgang til dem. De vil bli forsvarlig oppbevart. Forskeren ikke har kjennskap til hvem den enkelte deltaker i prosjektet "Grenseløs læring" er, og vil ikke få det før foresatte eventuelt gir samtykke. Forskeren er underlagt taushetsplikt og alle data behandles konfidensielt. Innholdet av videoopptakene vil bli transkribert, og all informasjon som kan identifisere lærer og elever, eller andre som omtales vil anonymiseres. Alt videomateriell vil slettes når forskningsprosjektet er fullført, anslagsvis i siste halvdel av 2014. Forskningsprosjektet er meldt til Personvernombudet for forskning, Norsk samfunnsvitenskapelig datatjeneste AS.

Det understrekes at deltakelse er frivillig og at et samtykke kan trekkes tilbake så lenge forskningsprosjektet pågår uten at man må oppgi grunn. Dersom noen ikke vil delta i studien eller senere velger å trekke seg, vil det ikke få noen innvirkning verken for deltakelse i "Grenseløs læring" eller andre tilbud ved Møller-Trøndelag kompetansesenter.

For spørsmål om forskningsprosjektet, ta gjerne kontakt med forskeren direkte:

Johan Hjulstad

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73 59 65 37 / 92 47 88 99

Svarskjema

Ja, jeg/vi har mottatt skriftlig informasjon og samtykker til at mitt/vårt barn kan delta i forskningsprosjektet "Avstand ingen hindring?", som innebærer at forskeren gis tilgang til videoopptak der mitt/vårt barn deltar.

Signatur fra eleven

Dato

Signatur fra forelder/foresatt

Dato

Signatur fra forelder/foresatt

Dato

Appendix 4: Interview guide students

Til ... og ...s foresatte

... har i inneværende skoleår vært med på prosjektet "Grenseløs læring". Dere har også samtykket til å være med på forskningsdelen av prosjektet. Informasjonsskrivet som dere fikk (vedlagt) nevnte at det kunne bli aktuelt med et intervju. I undervisningstimen torsdag den 7. Juni har lærer ... planlagt å gjennomføre en evaluering av undervisningen i ...s gruppe så langt. I den forbindelse ber jeg om samtykke om å få lov til å delta i timen for å spørre elevene om deres opplevelser/oppfatninger.

Spørsmålene vi har tenkt å stille er omtrent som følger:

- Hvordan synes dere det har vært å være med på GL?
- Hva har vært det aller beste med GL? Hva har vært det verste?
- Synes dere at dere har blitt flinkere i tegnspråk? Hvordan merkes det?
- Hva synes dere om temaene, eller andre ting dere har fått være med på underveis i prosjektperioden? Noe dere kunne tenkt dere mer av? Mindre av?
- Hva har GL hatt å si for deltidsoppholdene på Møller?
- Hva har fungert bra, eller fungert dårlig, med tanke på det tekniske?
- Hvilke forhåpninger har dere til neste års undervisning?

All informasjon vil bli anonymisert og behandlet som beskrevet i informasjonsskrivet. Samtykke kan gis ved å svare på denne eposten.

Håper på positivt svar.

Med vennlig hilsen
Johan Hjulstad

Appendix 5: Interview guide local teachers

<i>Fase</i>	<i>Tema</i>
1	<i>Repetisjon om forskningsprosjektet</i>
2	<i>Deltakelse i timene</i>
3	<i>Betraktninger om betydningen av GL for elevene</i>
4	<i>Organiseringen (helhet/sammenheng/deltid/lærerkurs)</i>
5	<i>Veien videre</i>
6	<i>Avslutning</i>

Fase 1: Repetisjon om forskningsprosjektet

Det praktiske. En halv time. Må noen løpe? Lest? Samtykke mottatt?
Om prosjektet – kun kort.

Fase 2: Deltakelse i timene

- Deltar du/har du deltatt på undervisningstimene ved å sitte ved siden av eleven?
Oppfølging:
 - Hvor mye?
 - Interessant?
 - Hva gjør du?
 - Hva får du ut av det?
 - Hvor mye ts behersker du selv?

Fase 3: Betraktninger om betydningen

- Hvilken betydning tenker du at denne timen har for eleven?
Oppfølging:
 - Hvordan inngår timen i den andre opplæringen?
 - §5.1 eller §2.6?
 - Utvikling hos eleven?
 - Elevens deltakelse?
 - Elevene har i prosjektperioden hatt ulike tema. Hvilke tema tenker du eleven din har hatt mest glede av?

Fase 4: Organiseringen

- Denne undervisningstimen inngår i et større opplegg med deltid og lærerkurs på Møller hvilke tanker har dere omkring:
 - Samarbeidet med lærerne?
 - Helheten i forhold til deltid?
 - Lærerkursene?

Fase 5: Veien videre

- Prosjektet tas over av skolen og blir en del av driften
 - Skal eleven fortsette?
 - Kommer du til å gjøre som frem til nå?
 - Ønsker til organiseringen?

Fase 6: Avslutning

- Mer på hjertet? Som jeg ikke har fått dekket?
- Takk for deltakelsen!