Chaining in interpreted interaction:

Finnish Sign Language interpreting in an English-medium educational setting

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Tiivistelmä – Abstract

Vuorovaikutus on luonteeltaan multimodaalista. Tämä pätee myös tulkattuun vuorovaikutukseen. Multimodaalisuus tarkoittaa, että merkityksiä välitetään hyödyntäen erilaisia semioottisia resursseja, kuten kieltä, eleitä, ilmeitä, kirjoitettua tekstiä ja kuvia. Kuitenkaan tulkkauksen tutkimuksessa ei ole juurikaan kiinnitetty huomiota siihen, kuinka tulkit hyödyntävät multimodaalisuutta työssään.

Tässä tutkimuksessa analysoidaan yhtä noin tunnin mittaista englanninkielistä luentoa, joka on tulkattu suomalaiselle viittomakielelle. Keskiössä on yksi multimodaalisuuden esiintymä: ketjutus (chaining). Ketjutus tarkoittaa sitä, että esimerkiksi käsitettä määriteltäessä käytetään useampaa kieltä, kanavaa tai välinettä. Tutkimuksessa selvitettiin, käyttävätkö tulkit ketjutusta, ja jos käyttävät, mitä semioottisia resursseja he hyödyntävät. Lisäksi tutkittiin, millaisia tehtäviä ketjutuksella on.

Analyysissa hyödynnettiin multimodaalista lähestymistapaa ja keskityttiin niihin ketjutus-sekvensseihin, joissa englanti on läsnä. Tulokseksi saatiin 11 erilaista ketjutuksen ilmentymää, joissa käytettiin viittomia, sormiaakkosviittomia, sormitusta sekä luennoitsijan käyttämien diojen visuaalista rakennetta. Lisäksi hyödynnettiin huuliota, joka oli merkittävässä roolissa englannin esiintuomisessa.

Ketjutuksella oli monia funktioita. Sitä käytettiin erottamaan merkitykseltään läheisiä käsitteitä, välittämään aiheelle olennaisia käsitteitä englanniksi, sekä merkityksen neuvotteluun. Lisäksi sillä tarkennettiin ja tarkastettiin viestin välittymistä. Paikoin ketjutusta hyödynnettiin tulkkausprosessin keventämisessä. Ketjutus oli paikoin jaettua, jolloin molemmat tulkit osallistuivat siihen tukien ja varmistaen viestin oikeellisuutta.

Asiasanat – Keywords chaining, interpreting, sign language interpreting, multimodality, semiotic resources

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Tiivistelmä – Abstract

Interaction is always multimodal. Multimodality means that meanings are conveyed by using different semiotic resources, such as language, gestures, facial expressions, written text and pictures. Even though it is considered that also interpreted interaction is multimodal, this aspect of the interpreters' work is often neglected in research and focus on how interpreters utilize multimodality in their work is called for.

In this study one English-medium lecture that is interpreted into Finnish Sign Language is analyzed. The lecture's duration is approximately one hour. The focus is on one multimodal phenomenon: chaining. Chaining means that different semiotic resources are utilized, for example, when defining a concept. The analysis concentrated on whether the interpreters use chaining, and if they do, what semiotic resources are utilized and what functions does chaining have.

In the analysis, multimodal approach was used and the focus was on those chaining-sequences when English was present in the interpretation. As a result, 11 different realizations of chaining were found. These different realizations used signs, fingerspelled signs, and fingerspelling. They also utilized the visual layout of the lecturer's slides. Also mouthing had a prominent role in introducing English to the interpretation.

Chaining had many functions. It was used to differentiate concepts that were close in their meaning, to convey the subject matter concepts in English, and to negotiate meaning. It was also used as a tool for verifying and checking the accuracy of the message. At times, chaining was used to ease the process of interpreting. Sometimes chaining was also distributed and then both of the interpreters took part in it by supporting each other and verifying the meaning of the message.

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1 Introduction

In this study, I will look into an English-medium lecture that is being interpreted into Finnish Sign Language. My focus is on the semiotic resources that interpreters use when engaging themselves in the act of chaining. Chaining is an interactional-pattern where different languages and modalities are chained to one another (Bagga-Gupta 2004: 183): it is a technique that is used for connecting different texts such as a sign, a written word, or a fingerspelled word. For example, a speaker can first write down a word, then fingerspell it, and then produce a sign corresponding to the meaning of the word.

As can be seen from the example above, meanings are conveyed in different ways in interaction. All interactions are multimodal in nature (Norris 2004: 1) and people utilize different semiotic resources within these modalities (Kääntä and Haddington 2011: 11). Van Leeuwen (2005: 285) defines semiotic resources as "the actions, materials and artefacts we use for communicative purposes". This means that meanings can be conveyed through language, gestures, facial expressions, written text, photographs, etc. These semiotic resources (or modes of meaning making (Norris 2004)) are affordances, particular properties of the environment that can be used or not used for doing something (van Lier 2000: 252). The interlocutors in the situation have a set of semiotic resources in their use. These are also available to the interpreters who may or may not use the same ones introduced by the source text producer.

As Gynne and Bagga-Gupta (2013: 493) state, in the analysis of chaining the focus is on "the interlinked flow of activities, linguistic and other resources and members' participation". Therefore, concentrating on chaining is one way to analyse the multimodality in interpreted interaction. Chaining is something that interpreters utilize, in my professional experience as a sign language interpreter, more than they realize. I want to make this process more visible and known, and therefore research on the use of semiotic resources is called for.

I will first shortly present the previous research done on relevant topics. In the third section I will describe the research questions to which I set to find the answer to and the data I have collected. In that section I will also discuss the methods, I have chosen to use in my analysis. The fourth section concentrates on my findings and the analysis I have done on them. Finally, in section five I will conclude my study.

2 Previous research

In this section I will firstly describe the main topics and viewpoints in the study of interpreting and translation in general. Secondly, I will shortly introduce aspects of two fields of interpreting that are of special interest in the frames of this analysis: educational interpreting, as the interpretation analysed takes place in an educational setting, and interpreting between two non-native languages, as this is a reality faced by the two interpreters working in my data. Then I will move on to research made on chaining.

2.1 Interpreting and translation

According to Wadensjö (1998: 4–5), the research done in the field of interpreting and translating can be divided into four stances: First, the normative and prescriptive research that has focused on the didactic strategies used in the interpreter and translator training (e.g. Cokely 1992). The second aspect that has been widely studied is the quality of interpreters' or translators' work. In these studies, the focus is on comparing the source text (ST) and the target text (TT). The third stance has concentrated on the cognitive processes that are involved in interpreting and translating, for example Setton (1999). The fourth stance, the one that Wadensjö herself presents, is looking into the social order of real-life interpreter-mediated conversations.

The first three stances are more concentrated in *text as talk*, whereas the fourth field looks more into the social aspect of interpreted interaction and *text as activity*, although they do not ignore the textual aspect either. For example, Wadensjö (1998) has looked into real-life interpreter-mediated institutional conversations with spoken language interpreting. In her study, instead of seeing an interpreter being just a conduit or a channel for an interaction, she sees the interpreter as an engaged actor who has the task of translating and co-ordinating the interaction. Also Metzger (1999: 23) deconstructs the myth of interpreters being non-participants, but sees them influencing the interaction with their presence. She states that even though it is thought that an interpreter ought not to affect or influence the situation, the very fact that an interpreter is present already turns the situation somehow marked.

According to Metzger's (2006) survey of the seminal studies done during the past four decades on sign language interpreting, the topics of research have remained similar in that time frame. From her

data set of 97 studies many have revolved around the topics of interpreter effectiveness, source-to-target-comparison and free vs. literal translation, and educational interpreting. Some shifts on the interest have taken place when also the interpreter's role has risen to the centre.

2.2 Educational interpreting

Educational interpreting is a field of interpreting that is not necessarily that familiar in spoken language interpreting. It is, however, a very common working setting for sign language interpreters. According to Pöchhacker (2004: 14), educational interpreting is one of the most significant types of intra-social interpreting (i.e. interpreting taking place within heterolingual societies). Educational interpreting takes place in educational institutions, and it is conducted on all levels of education. The goal of educational interpreting is to make it possible for the deaf or hard-of-hearing person to participate in the educational setting. (Koukka 2010: 59–60.)

Educational interpreting has been studied, for example, from the point of view of the cognitive effectiveness of interpreted lectures (e.g. Cokely 1990), the strategies that are used by the interpreters (Napier 2002), the competence of educational interpreters (e.g. Marschark et al. 2005), and the effectiveness of interpreter mediated education (e.g. Marschark et al. 2004; Marschark et al. 2008). In Finland, for example, Selin (2002) has made a case study on team interpreting in an educational setting.

2.3 Interpreting between two non-native languages

In general, an interpreter's working languages are divided into A-, B- or C-languages according to AIIC[1] (2016) guidelines. A-language is the interpreter's native or best language; B-language is an 'active' language which means that the interpreter commands it with near-native proficiency; C-language is also called 'passive' language which means that the language is understood (Pöchhacker 2004: 21). According to Pöchhacker (2004: 21) and the guidelines set by AIIC (2016), it is recommended that interpreters would interpret from their B- and C-languages into their A-language. AIIC (2016) also states, that interpreters can work into B-language as well, but they may prefer to do so only in either simultaneous or consecutive mode of interpretation. C-language is always the source language and never the target language. However, sign language interpreters in Finland do not speak

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[1] AIIC, the International Association of Conference Interpreters

of their working languages in these terms. Most of the sign language interpreters are not native signers (Roslöf and Veitonen 2006: 164), and usually they interpret simultaneously from A into B, i.e. voice-to-sign (Pöchhacker 2004: 21).

In the case that I am analysing, the interpreters are working between two non-native languages as the source language is English and the target language is Finnish Sign Language. These kinds of situations are becoming more common. Scholl (2008: 331) explains that the reasons for this are that Deaf[2] people have better access to higher education, they travel more and the Deaf community is more global than before. Also Nilsson (2009: 1) acknowledges that interpreting to a third language is a practice among European sign language interpreters that needs to be recognised.

Interpreting between two non-native languages is not necessarily an easy task. Scholl (2008) has looked into the process of interpreting between two non-native languages by utilizing Gile's Effort Model (Gile 1985, as cited in Scholl 2008) which consists of three steps that strain the interpreter's working memory and therefore affect the outcome: listening and analysing, memorisation, and formulation of utterance in the target language. If the interpreter struggles in one area, this means that there is less working memory to be used for the other two. Scholl (2008: 340–341) concludes that working between two non-native languages is a reality which sign language interpreters cannot escape. She highlights the need for more research into the topic and the need for more education to interpreters on how to adjust their interpreting methods and keep their efforts balanced. This study contributes to the need as I believe that chaining can be used to ease the interpreters' workload.

2.4 Chaining

Chaining is an interactional pattern where sign language and spoken language are chained to one another (Bagga-Gupta 2004: 183). In chaining, activities, linguistic and other semiotic resources and members' participation are intertwined (Gynne and Bagga-Gupta 2013: 493). In chaining the same information or the same message is conveyed by using different resources.

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[2] In the Anglophone world *Deaf* is used to emphasize cultural and linguistic view on deafness, i.e. people who are audiologically deaf and also identify themselves with the Deaf community. In the same tradition *deaf* is used mainly to refer to a person's audiological status. For further discussion on the evolution of the terms, see Baumann 2008. In this study the capitalised form Deaf is used.

Both Humphries and MacDougall (2000) and Padden (1996a, b) discuss a discursive practice that Bagga-Gupta (2002) has labelled as *local chaining*. Bagga-Gupta has identified three different types of chaining, which can be actualized via different semiotic resources: local chaining, *event chaining* and *simultaneous chaining*.

The first one, local chaining is "a technique for connecting texts such as sign, a printed or written word, or a fingerspelled word. …. This technique seems to be a process for emphasizing, highlighting, objectifying and generally calling attention to equivalencies between languages." (Humphries and MacDougall 2000: 90.) In local chaining the resources from two languages or modalities are used. The function of local chaining can be to bring out equivalencies between two languages or on the other hand to present the distance between the two linguistic or modal resources (Bagga-Gupta 2004; Humphries and MacDougall 1999). This can be conducted for example by producing a signed language sign followed by fingerspelling. Tapio (2013, 2014) has also identified local chaining that is distributed between several participants by saying a word in Finnish, saying it in English, fingerspelling, typing and so on.

The second one, event or activity chaining is tied to the different phases of the lesson. Depending on the phase that is taking place, different language varieties are used (Bagga-Gupta 2000). This kind of chaining was not present in the data analysed in the present study.

Bagga-Gupta (2004: 183–184) calls the third type of chaining simultaneous or synchronized chaining. She has identified at least three ways, in which two language codes and systems are chained to each other in a synchronized manner: when interpreting between spoken and signed language, when the same person in the same activity switches periodically between two languages or when a person is focusing on a written text and visually reads by signing. Simultaneous chaining can also be realized by the simultaneous production of a sign and mouthing, or fingerspelling and pointing.

Chaining has been researched in educational settings, e.g. in the USA with American Sign Language (ASL) and English (Humphries and MacDougall 2000; Padden 1996a; 1996b) and in Sweden with Swedish Sign Language (SSL) and Swedish by Bagga-Gupta (2000, 2002, 2004) and by Gynne and Bagga-Gupta (2013) with Finnish and Swedish, as well as in the context of narrative telling by Quinto-Pozos and Reynolds (2012) (ASL and English). These studies highlight that in multilingual contexts the different language varieties used are inter-linked. Chaining is a useful concept when one wants to examine the practices utilized in multilingual contexts (Gynne and Bagga-Gupta 2013: 493).

Regarding Finnish Sign Language (FinSL), Tapio (2013) has discussed chaining in her dissertation. In her analysis she focuses on how English is present in the everyday lives of FinSL signers. She has mainly focused on educational context but also touches upon everyday situations. Tapio (2013) concludes that FinSL signers use a number of different resources to learn languages, even though these resources are not necessarily recognised or used in formal education. These resources include, for example, chaining technological tools with the semiotic resources and hybrids of visual and embodied modes when fingerspelling English words.

3. Methods and research questions

3.1 Main research questions

In this study, I set to find out more about chaining and its possible presence in an interpreted interaction. The data has been collected from a situation where an English-medium lecture is interpreted to FinSL. I intend to find out the following.

    i.   If interpreters use chaining, what semiotic resources are utilized?
   ii.   If interpreters use chaining, what functions does it have?

My hypothesis is that chaining will be present in the data. I assume that the interpreters utilize different semiotic resources, such as signs, fingerspelling and pointing to realise chaining. I also expect that chaining is used when new notions or concepts are introduced.

3.2 Data collection

The data I analyse in this study consist of one video-recorded English-medium lecture in a Finnish university that is interpreted to Finnish Sign Language. Interpreting between FinSL and English, i.e. two non-native languages for most FinSL interpreters, takes place more and more due to some of the reasons presented by Scholl (2008, see section 2.3). As this kind of interpreting is also present in higher education settings in Finland, I wanted to include this aspect in my data as well. By concentrating on a lecture setting I hoped not only to limit my study in one specific context, but also to avoid the influence the presence of a researcher might have.

The length of the recording is one hour and three minutes. I also have field notes of the lecture, as well as access to the slides used by the lecturer. In the situation the lecturer, two interpreters, one Deaf student and approximately 200 hearing students are present. The recording of the lecture in question was conducted by using two video cameras and a tablet. The interpreters were recorded with one of the video cameras. The reactions of the Deaf student were recorded by a tablet. The other camera was used to capture a wider view of the lecture hall portraying for example the slides used, but not the teacher, as per her request. An illustration of the layout is available in Figure 1 (section 3.3, p. 17).

For the purposes of analysis, the recorded data was annotated by using ELAN (Eudico Linguistic Annotator). The program allows to link annotations and time align them to the corresponding video segments (Perniss 2015: 63). It also makes it possible to examine the simultaneous actions taking place during a sequence. In my annotation process I paid special attention to the sequences when the phenomenon in focus, i.e. chaining, occurred. In my annotation I took into consideration the source text provided by the lecturer and the student's action, such as gaze and head movement or other feedback to interpreters. My main focus in the analysis is on the actions of the interpreters and the semiotic resources that they utilize. I have noted down on each sequence the signs of fingerspelled signs (referring to the tokens of fingerspelling), possible other uses of the non-dominant hand[3] (e.g. pointing), mouthing (and at times mouth gestures), other means that might have a communicational or interactional purpose (e.g. the interpreter in support shift pointing to a tablet in her use and showing that to the interpreter in active shift[4]). The semiotic resources mentioned are defined below.

3.2.1 Ethical considerations of data collection

Each participant signed a permission form in Finnish where they gave their consent to use the recorded material for research purposes. In the permission form it was stated that the anonymity of the participants is protected through the research process and when reporting on its findings. However, the participants gave as a default their permission to use the video and audio without altering them. They could refuse this by ticking a box in the same permission form. Both the lecturer

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[3] *Dominant hand* is the hand that the signer uses more, *non-dominant hand* the less used hand.

[4] Interpreters can work by themselves or in teams of two or more. There are different approaches on how to view team interpreting. In my work I will view it as a collaborative and independent process as described in Hoza (2010: 8): They relieve each other by taking turns producing the output, they back up each other by monitoring the output, and they work independently and as a single unit by collaborating and making similar decisions. In my study the interpreter responsible for the producing of the target language in a given time is called *the interpreter in an active shift* or *active interpreter* and the other interpreter *the interpreter in a supportive shift* or *supportive interpreter*.

and the Deaf student requested that all the material presented in public, whether it be video or pictures, for example, still frames, need to be altered so that they cannot be recognized.

I decided to take these restrictions into account already in the recording phase. Therefore, I did crop the lecturer out of the wider angle recording. Another reason for this was that the interpreters and slides would be in a better view. Even though also the Deaf student requested the data to be altered, I did record the Deaf student as I saw the reactions and feedback can play an important role in chaining. The interpreters gave their consent to use the data unaltered. Some still frames from the data are used in this report.

3.3 Methods of analysis: Multimodality and semiotic resources

Multimodality takes into account the different resources or modes by which a message can be conveyed. Jewitt (2009: 1) states that multimodal approach to representation and communication extends the interpretation of language and its meaning to cover other semiotic resources as well. As Käntä and Haddington (2011: 11–12) explain, even though language is an important and efficient device to create mutual understanding, a major part of interaction is non-verbal communication. However, non-verbal communication and language are not the only resources utilized in communication and interaction. According to van Leeuwen (2005: 285), semiotic resources are the actions, materials and artifacts that are used for communication. They are the means of communication (speech, gestures, facial expressions, written text, photographs, etc.) and the ways they are used in different situations. They can be produced either physiologically or technologically "together with the ways in which these resources can be organised". Semiotic resources have a variety of potential meanings based on their past uses and a set of affordances and constraints based on their possible uses.

In multimodal approach to semiotic resources, the signs are a product of a social process of sign-making:

> "--- people express meanings through their selection from the semiotic resources that are available to them in a particular moment: meaning is choice from a system. But this choice is always socially located and regulated, both with respect to what resources are made available to whom, and the discourses that regulate and shape how modes are used by people."
> (Jewitt 2009: 23.)

Jewitt (2009: 23) continues that different normative discourses regulate how different semiotic resources are used. For example, institutional norms provide "rules" how different semiotic resources can be used. She further (ibid. p. 2) states that language is a key aspect of multimodality but emphasizes that "it is nestled and embedded within a wider semiotic frame". In multimodal research the goal is to look beyond the language and explore the different modes and communicational contexts. Language is part of the whole instead of being a separate object of interest.

Table 1. Tapio's (2013) adaptation of communicative modes (adapted from Norris 2004)

Communicative modes

1	**Finnish Sign Language**
2	**Fingerspelling**
3	Spoken language
4	**Mouthing**
5	Disembodied print
6	Gesture
7	Gaze
8	Proxemics
9	Posture
10	Head movement
11	Layout

Table 2. Semiotic resources in the data (adapted from Norris 2004 and Tapio 2013)

Semiotic resources

1	Spoken language	English
2	Sign Language	Finnish Sign Language
3	Fingerspelling	Finnish English
4	Mouthing	Finnish English: spoken form English: written form
5	Disembodied print	
6	Gesture	
7	Gaze	
8	Head movement	
9	Posture	
10	Proxemics	
11	Layout	

Norris (2004) has defined *communicative modes* (referred to as *modes of communication* or *systems of representation* by Kress and van Leeuwen 2001), and Tapio (2013: 165) has elaborated on them to be used on analysing signed interaction from a multimodal viewpoint. I will use these listings as a tool when discerning the semiotic resources used in the interpreted interaction that I am looking into. Tapio (2013: 164) notes, that her list of communicative modes applies only to the analysis of her particular data. Therefore, I have furthermore expanded on the listing for my own purposes. In Table 1 is Tapio's listing where the use of bold indicates her changes to Norris'. And next to it, in Table 2,

is my adaptation that has worked as a frame for my analysis. In Norris' (2004) original listing of communicative modes also music, either embodied or disembodied, is mentioned, but in my data set, as well as in Tapio's (2013) that mode was not relevant. Next, I will shortly explain how Norris defines the communicative modes in her listing and I will also define my own additions in the order in which they appear in my listing. I will also describe the more static elements of my analysis here.

According to Norris (2004: 15–17), spoken language is typically sequentially structured, but there can also be simultaneous talk in interaction. In my data, there is no simultaneity as I am looking into a lecture which is basically a monologue. As Goffman (1981: 165) defines: "lecture is an institutionalized extended holding of the floor". Lecture could also be at least in parts dialogical but in this case, there is no dialogue between the lecturer and the students, i.e. "immediate audience" (Goffman 1981), if answering by raising one's hand is not considered a dialogue.

The spoken language used in the lecture is English. This makes the situation also an example of an 'English as a lingua franca'-situation as English is not the native language of the lecturer. Also based on my observations when students were answering to the background questions asked by the teacher it is not the native language for most of the students as majority of them were Finnish. The goal of the course seems to be not only to teach the subject matter, but also to improve the students' abilities to use English in their own professional field and enhance their academic and professional competence in English. As can be seen later in section 4.1, I argue that this goal affects the strategies the interpreters employ.

Finnish Sign Language is a visual-gestural language (Jantunen 2003: 9–10). It has developed in the Finnish signing community since the 19th century (ibid. p. 22). It has been estimated that FinSL is the first language for 4000-5000 deaf people, and a second or a foreign language for approximately 10000 people (ibid. p. 23.) FinSL is in this case used only by the interpreters. Potentially it could have been used by the Deaf student as well, but as stated above, dialogue during the lecture was minimal.

Part of the composition of FinSL lexicon are signs. In many cases a sign can be assumed to be equivalent to the concept of word[5]. However, one important difference between a word and a sign is that two signs can be produced simultaneously by one speaker, one with the right hand and one with

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[5] However, this presumption is not without contradiction. For further discussion, see e.g. Jantunen 2010.

the left hand (Zeshan 2002: 167–169; Vermeerbergen, Leeson and Crasborn 2007). This possibility of simultaneity plays a part in my data.

Fingerspelling is the production of manual alphabets. FinSL signers use the so-called international manual alphabet (Salmi and Laakso 2005: 319). According to Jantunen (2003: 80), in FinSL fingerspelling is used when there is no sign for a concept in a spoken language, e.g. proper names, or the signer does not know the sign, or when the signer wants to emphasize the form instead of the concept. Following Tapio (2013: 149) I will differentiate between the terms *the manual alphabet* and *fingerspelled signs*. I will use the term the manual alphabet to refer to the set of sign language signs referring to the written alphabet and the term fingerspelled signs to refer to the symbols of fingerspelling. I will follow Patrie and Johnson's (2011, as cited in Tapio 2013: 149) convention in the glossing. Fingerspelled signs will be glossed as, for example, LETTER-A, and strings of signs, i.e. fingerspelling, by letters in small capitals separated by hyphens L-E-T-T-E-R. In my data fingerspelled words are either in English or in Finnish.

Mouthings are mouth patterns that are derived from spoken language, in contrast to mouth gestures which are seen to be unique idiomatic gestures for sign languages and from within them (Rainò 2001: 41). In my analysis, I will concentrate on mouthings. In the data mouthings are in Finnish, in the spoken form of an English word, or in the written form of an English word. In my analysis I have done my best to separate whether the English mouthings are in their spoken or in their written form. In some cases, it is clear which variant is present, however, in other cases it is not possible to be sure.

Norris (2004: 44–46) argues that print mode can be either embodied or disembodied. It includes written texts in all its elements (i.e. language, typography) and images in the printed media. Whether a print is embodied or disembodied depends upon how participants use it. The embodied print mode is present when people use tools to communicate their insights, thought, or feelings. Print mode is disembodied when people react to print that is produced or developed by someone else. In my data the communicative mode of embodied print is not present, however, the resource of disembodied print is. There are occasions when the interpreters either look at the text on the tablet they are using, gaze towards lecturer's computer screen or turn to the white screen. Sometimes this is followed by scrolling of the tablet, pointing to the tablet or to the screen or some other reaction. Disembodied print is also present when the structure or the layout of the used visual aids are present in the interpreting.

Norris (2004: 28) follows the established division of gestures to iconic, metaphoric, deictic and beat gestures. However, the distinction between language and gesture is not necessarily clear, especially in the case of sign languages where the research combining language and gesture has not been frequent (Halkosaari 2013: 17). Nonetheless it is generally accepted that gestures are part of the language (Halkosaari 2013: 44). In my analysis I have tried to consider gestures where appropriate to understand the phenomenon in question but I did not find this easy. One gesture that takes place in part of the cases I consider chaining is index finger pointing. For example, Halkosaari (2013) has looked into its status as a linguistic unit and a gesture in her thesis. This kind of pointing can have different functions, and some of them are quite conventionalized. Therefore, it can be speculated whether it in fact is purely gestural, non-linguistic unit. These kinds of uncertainties on what can be considered as a gesture were challenging also in the analysis of the present data.

When considering gaze, Norris (2004: 36–38) takes into account the organization, direction, and intensity of looking. Thus when analysing gaze one should consider who is looking at whom, where else gaze is directed and whether the gaze is fixed on something or if it wanders. As Norris (2004: 38) emphasizes: "Many interactions involve more than two people and more than one focus of interaction. This makes the study of gaze difficult and also exciting." I must concur with this statement as in my analysis, at times gaze told very much. It was important in the interaction between interpreters and it was used, for example, to indicate the need for support. Also if it had been possible to follow the student's gaze between the interpreters, the white screen and the specific concepts presented on the slides, it might have provided a different, interesting angle on chaining.

Head movement concentrates on how individuals position their heads during interaction (Norris 2004: 33). Norris (2004: 33) states that in interaction head movement has a range of functions from innovative to conventional. I have mostly concentrated on the conventional head movements of the Deaf student, who, at times, nods and thus takes part in the interpretation process by giving instant feedback.

Posture is the way the participants position their bodies in an interaction. It can be open or closed, and it indicates directionality. This kind of behaviour displays the involvement of participants with others. (Norris 2004: 24–25.) The interpreters in the data displayed mostly open posture. A partial reason for that can be that they were "on display" as they were taking part of the front of the lecture hall. This, combined with the academic educational context and its norms of appropriate behaviour might be reasons for open posture. Especially when the interpreter was in active shift, she directed

her body towards the Deaf student. The interpreter in support shift generally had more "freedom" when it came to the directionality of their posture. However, most often they were seated quite neutrally or then either leaning or rotating their upper body towards the interpreter in active shift.

I will discuss the last two communicative modes, proxemics and layout, together as they are somewhat intertwined. With proxemics Norris (2004: 19) means the distance that people take up with respect to others or relevant objects around them. The layout that the participants employ structures interaction (Norris 2004: 49). Below is a sketch (Figure 1) of the layout of the classroom and how people in there have situated themselves. Also the rough proxemics between participants are visible.
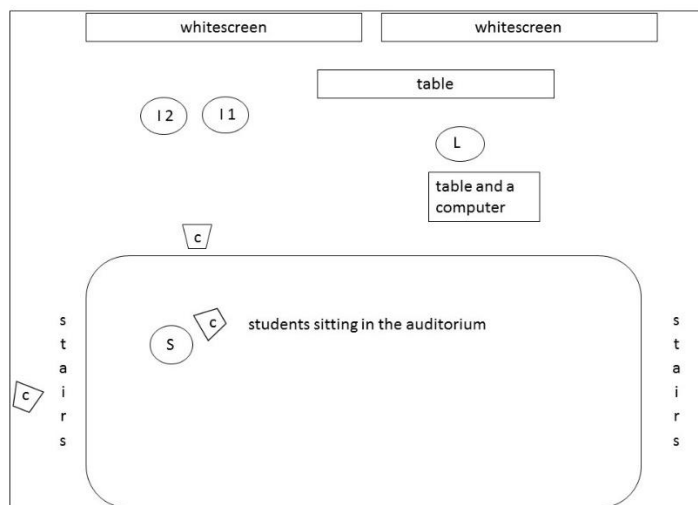

Figure 1. The layout of the classroom. (not to scale)
Key for abreviations: I1/I2 = Interpreter 1, Interpreter 2, L = Lecturer, S = Student, c = camera

As already mentioned and visible in Figure 1, the lecturer shares the front of the classroom with two interpreters. However, they are situated on the opposite sides of the platform and interpreters are seated a bit farther away from the students than where the teacher is standing. There are practical reasons for this: The interpreters are situated behind the lecturer to be able to observe what she is doing and when she is, for example, changing a slide. They are also restricted by the space. They need to be near a white screen so that the deaf student will be able to follow both the interpreters and the slides as conveniently as possible. They cannot be seated in front of the other white screen because this is blocked by the table and lecturer's desk with a computer. The space (and the technology) also restricts lecturer's placement. Because she is using a slide show, she has to stay near the computer in order to be able to change slides. Another reason for her staying in place is that the lecture itself is being recorded and she needs to stay in view of the camera. Students are also seated the way they are because the space does not provide any other affordances than fixed seats in an auditorium formation.

How the participants exploit the layout and their mutual proxemics creates meanings. It indicates that the two interpreters are a group. They also form a group with the Deaf student: this is indicated by directionality of gaze and posture as well as the feedback given by the student. Also their placement with respect to each other: practically opposite to each other enforces this interpretation of the situation. The Deaf student is also part of the group of students who are all sitting, facing front of the classroom and sharing the same point of interest. The lecturer and the interpreters also form a group, maybe more loosely than the others as they are sharing the same space, traditionally reserved for the lecturer only.

4 Analysis

In this section I will first briefly discuss lecture as a discourse context because I believe that to be central for the understanding of why chaining takes place in the forms it does. Second, I will describe the different realizations of chaining that occurred in the data. I will also discuss what the possible reasons for their use are.

4.1 Lecture as a discourse context

Goffman (1981) defines lecture as an institutionalized event in which one participant controls the situation, selects the subject, and decides when the discourse starts and finishes. However, in contrast to Goffman's view these decisions and selections are not necessarily personal but institutional. He continues that lecture is often carried out in a platform arrangement. According to Goffman (1981: 165), this underlines that the listeners are an "immediate audience": they are gathered to the same place, usually seated, the number of the listeners can vary greatly, they have the right to stare at the speaker, and at least initially they might not have much of a possibility to convey their response.

In the case in focus here the platform arrangement is disturbed as two interpreters share the front of the classroom with the lecturer, occupying part of the space usually meant for the lecturer only. Even though in the interpreter mediated lecture that I am concentrating on there was no such event, but in general the interpreters have the possibility to ask the lecturer for clarification and in a way interrupt the proceedings of the lecture. The interpreters affect the situation also by being under the scrutiny of the immediate audience.

A lecture in an educational setting has the goal to educate and the goal of educational interpreting is to mediate that educational message. In the situation in focus, the language of the instruction is English. As hypothesised above, the educational message does not necessarily lie only in the subject matter but also in the attempt to improve the students' English skills, and especially in their own field. Specific terms, such as 'manager', 'supervisor' and 'management' are used, and it is important that these distinctions are mediated also in the interpretation. Also crucial concepts and notions should be available to the Deaf student also in their English form, in order for the student to receive the "same" educational content as the hearing students. In the next section I will present the findings of my study and, through examples, show how these educational or equality-related goals of interpreting are achieved.

4.2 Findings

I focused on those chaining sequences in the data where English is visible in the interpretation, and where chaining occurs. There were 43 instances of chaining. Based on their structure, I created 11 categories into which I placed my findings. Of these categories, three can be viewed as examples of simultaneous chaining. This was the most common type of chaining with 22 instances present in the data and with three different realizations (1-3 in Table 3). However, in the SIGN/Eng mouthing - realization there were multiple instances of the same concept pair 'management and leadership' as well as of the concepts 'management' and 'manager'. There were also clear cases of local chaining (10-11 in Table 3) in six instances and two realizations altogether. There were also 15 sequences that seemed to employ the characteristics of both simultaneous and local chaining. These could be divided into six different categories based on their form. In all of the sequences analysed English was visible through either mouthing or fingerspelling. In the following sections, I will go through my findings category by category, describing them and their functions and providing suitable examples.

Table 3. The different realizations of chaining.

In the table / indicates simultaneity and + sequentiality

		No. of instances
	Realizations of simultaneous chaining	
1	SIGN/Eng mouthing (spoken)	19
2	SIGN/Eng mouthing (written)	2
3	FINGERSPELLED SIGN/Eng mouthing (spoken)	1
	Realizations making use of both simultaneous and local chaining	
4	SIGN/Eng mouthing (spoken) and Fin mouthing	1
5	SIGN/Eng mouthing (spoken) + SIGN/Fin mouthing	3
6	FINGERSPELLED SIGN/Eng mouthing (spoken) + F -I-N-G-E-R-S-P-E-L-L-I-N-G	1
7	(SIGN +) FINGERSPELLED SIGN/Eng mouthing (spoken) + SIGN	2
8	Distributed chaining	3
9	List buoy construction	5
	Realizations of local chaining	
10	SIGN + F-I-N-G-E-R-S-P-E-L-L-I-N-G (+ SIGN)	3
11	Mouthing + SIGN (+ F-I-N-G-E-R-S-P-E-L-L-I-N-G)	3
	Total number of sequences	**43**

4.2.1 SIGN/Eng mouthing (spoken)

In this realization of simultaneous chaining two modes were used: Finnish Sign Language and mouthing which consisted of the English word in its spoken form. These two modes were produced simultaneously.

The sequences in this category show the most similarity of the categories. The majority of the sequences in this category belonged to the same semantic field and have partly overlapping meanings. FinSL sign simultaneously with English mouthing in its pronounced form was used repeatedly when interpreting reoccurring concepts such as "management and leadership" or "manage" and its derivatives. Belonging in the same semantic field as well as chained in the same way also concept "supervisor". Below in the Figures 2 and 3 there are the signs used for "management" and

"leadership". Underneath them there are rough translations of their dictionary equivalents that indicate the overlapping meanings.

SVK-S Art. 410:to manage, to keep things under control (Suvi 2013).

Figure 2. "Management"

SVK-S Art. 369: to lead, to guide (Suvi 2013).

Figure 3. "Leadership"

Based on these sequences, I argue that in these cases and this context mouthing is used to separate concepts that otherwise could be easily confused with each other based on the sign used. This practice might be either conscious or unconscious on the behalf of the interpreters, but it serves the purpose of clearly distinguishing the terms or concepts that are close in meaning. The need for distinction rises from the context: a lecture and course given in English. As the concepts discussed here are part of the subject matter of the course, it is important to convey them as accurately as possible.

STAKEHOLDER

'stakeholder'

Figure 4. "Stakeholders"

In this category there were also two sequences that differed from those described above. These were the interpretations of concepts "stakeholders" and "hot line". "Stakeholders" was also a reoccurring concept in the text. It had different realizations in interpretation one of which (Figure 4) fits to this category. This sequence took place towards the end of the lecture, and was the last time it occurred during the interpretation. My assumption is that in this case, this kind of chaining was used because the concept was already familiar from earlier use. The other sequence, "hot line" is a phrase that is used also in the Finnish context and culture. Therefore, it could be presupposed that it is familiar also to the Deaf student.

4.2.2 SIGN/Eng mouthing (written)

In this category of simultaneous chaining, Finnish Sign Language and the simultaneous mouthing with written form of an English word are the modes present. There were two sequences that shared this structure. Those are interpretations of concepts that are present in the source text only once or twice.

What connects these two sequences other than their structure, is that they are familiar from the context. One has been produced earlier by fingerspelling the English word and other is visible at the same on the slide reflected to white screen. It is not clear why the written form of English mouthing is present here, but it could be conjectured that the fact that one of them was fingerspelled earlier accounts for that case. The second possible explanation is that interpreter has evaluated the written form of the word to be relevant to the Deaf student, and want to reinforce it. The third possible explanation could be interpreter's own preference.

4.2.3 FINGERSPELLED SIGN/Eng mouthing (spoken)

This category consists of one proper name. The interpretation of this name shows evidence of simultaneous chaining by using a fingerspelled sign, in this case LETTER-B + LETTER-S accompanied with English mouthing in its spoken form. The name has been mentioned and fingerspelled before and is now referenced another time. Because of the context and the knowledge shared by the interpreters and the Deaf student, there is no need to repeat the fingerspelling but a fingerspelled sign and mouthing is being used.

4.2.4 SIGN/Eng mouthing (spoken) and Fin mouthing

Also in this category there was only one realisation, "responsibility". While producing the sign VASTUU (responsibility) the interpreter first produces the mouthing 'ponsibility' and then 'vastuu'. The reason for this kind of abrupt modification of the mouthing could be due to the interpreting process, and the interference of English with Finnish Sign Language.

4.2.5 SIGN/Eng mouthing (spoken) + SIGN/Fin mouthing

This category, as also the previous one, employs both local and simultaneous chaining. In the sequences in this category the same sign was produced twice or thrice but the linguistic mode

represented in mouthing occurring simultaneously with the signs varied between Finnish and English (not necessarily in that order). For example, in the case of "sustainable" the FinSL sign KESTÄVÄ is produced three times with mouthing varying with each time the sign is produced from 'sustaina-' – 'kestävä' – 'sustainable'. This process is visualized in Figure 5 below.

'sustaina-' ⟹ 'kestävä' ⟹ 'sustainable'

SVK-S Art. 409: strong, strength, to sustain, sustainable (Suvi 2013).

Figure 5. "Sustainable"

In the sequences in this category it could be that either the repeating of the sign with a different mouthing is part of the interpreting process or then the concepts in question are emphasised. Also the sequence could also be an indication of meaning-negotiation. In the question of "sustainable" the lecturer is talking about sustainable banking. The adjective sustainable is used to modify the following noun and to create a certain image of the action. A dictionary equivalent for it is the sign visible in Figure 5. However, it can be questioned whether this equivalent should be the automatic one to be used. In the case of "sustainable" chaining's function could be any of the above-mentioned. The other examples in this category consist of two cases of "stakeholders" which is a reoccurring concept in the text.

4.2.6 FINGERSPELLED SIGN/Eng mouthing (spoken) + F-I-N-G-E-R-S-P-E-L-L-I-N-G

This category includes one sequence of "stakeholders". In this sequence first LETTER-S + LETTER-H are produced and this is followed by the fingerspelling of the whole word S-T-A-K-E-H-O-L-D-E-R. This is the third instance of chaining "stakeholders". Even though the concept had been introduced already twice before fingerspelling has not occurred previously, although it is something that could be expected to have taken place.

The reason why it takes place here can be explained by the fact that interpreters have switched shifts (two times by this point) and this is the first time when Interpreter 1 produces this concept. It could also be that Interpreter 1, now starting her shift, wants to make the link between the English concept and the interpretation explicit.

4.2.7 (SIGN +) FINGERSPELLED SIGN/Eng mouthing (spoken) + SIGN

The sequences in this category display characteristics of both local and simultaneous chaining. Both sequences here consist of chaining of the concept "stakeholders". These are the first two instances were "stakeholders" is present in the source text and interpretation. These two sequences differ a bit from each other in their execution: In the first one the structure of chaining is SIGN + LETTER-S + SIGN, whereas in the second the first SIGN is omitted. This kind of chaining seems to convey the concept quite clearly both in FinSL and in English.

4.2.8 Distributed chaining

The three sequences in this category employ a variable mix of local and simultaneous chaining. They also highlight well the role that both the interpreters have during the interpretation. Even though only one interpreter is in active shift, also the supportive interpreter can contribute to the interpretation. This can be seen for example in the sequence "retaliation", in which the supportive interpreter plays a big role and chaining is distributed between the two interpreters.

In Figure 6 it can be seen how the two interpreters and also the Deaf student take part in the process of chaining, and also how visual aids are used. The word "retaliation" is visible on a slide which contains quite a lot of text. When the word is uttered by the lecturer, the supportive interpreter does LETTER-R which I believed to be used as a mnemonic device, as getting ready for a possible challenge that might be faced. This is then followed by the fingerspelling R-E-T-A-L-I-A-T-I-O-N produced by the supportive interpreter. However, already during this fingerspelling also the active interpreter starts to produce the same word by fingerspelling. There is a misspelling but the student nods and indicates understanding. After this beginning part of the sequence, the active interpreter continues interpreting. After approximately three seconds, as the interpretation goes on the supportive interpreter produces the sign RANGAISTUS (retribution) that can be seen to be an equivalent for retaliation in the context. However, the sign is produced somewhat inattentively and for example, its place is not where it should

be. This kind of production of the sign might indicate uncertainty of the suitability of the sign or its equivalency to the concept.
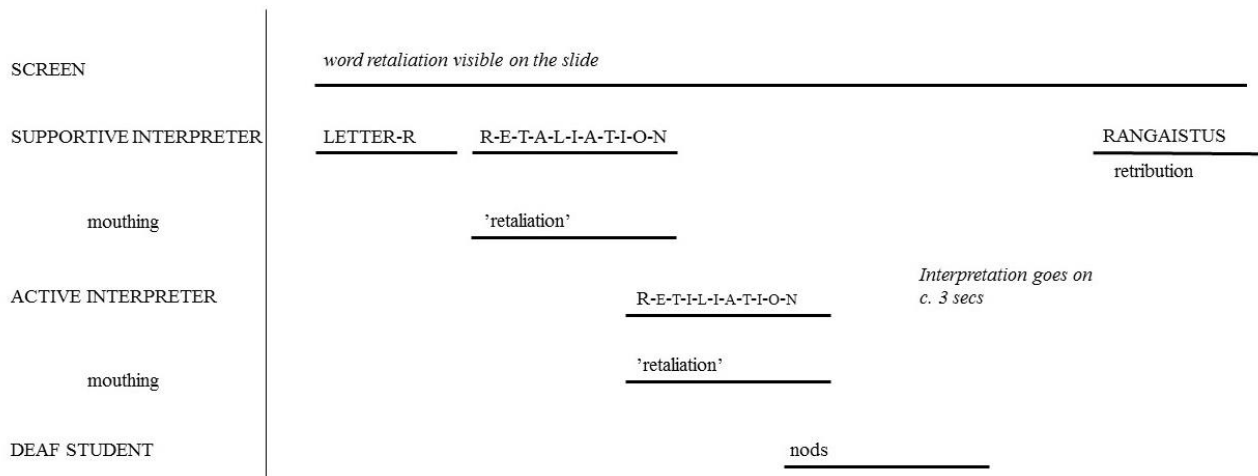

Figure 6. "Retaliation"

In the other two sequences in this category the supportive interpreter produces the concepts in question simultaneously to that of active interpreter's output. I argue that these kinds of actions of the support interpreter are examples of the process where the support interpreter monitors and anticipates the output, gives support to the active interpreter as well as reinforces the message conveyed to the student.

4.2.9 List buoy construction

The sequences in this category employ list buoy-structure. According to Liddell (2003: 223), list buoys are used for making associations to different entities. They are produced with the non-dominant hand and each stretched finger receives a meaning[6].

In my data on chaining, list buoys were mainly present in cases when there was some kind of visual representation on the slide which was then reproduced by the interpreter(s). Next I will discuss such an example, where four sequences of chaining form together a list presented on the slide. This is illustrated in Figure 7. By pointing to the non-dominant hand's fingers the interpreter reconstructs the list visible on the screen.

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[6] For further discussion on buoys, see Liddell 2003; for description of FinSL buoys, see Varsio 2009.

Four approaches
1. Compliance orientation
2. Values orientation
3. External orientation
4. Protection orientation
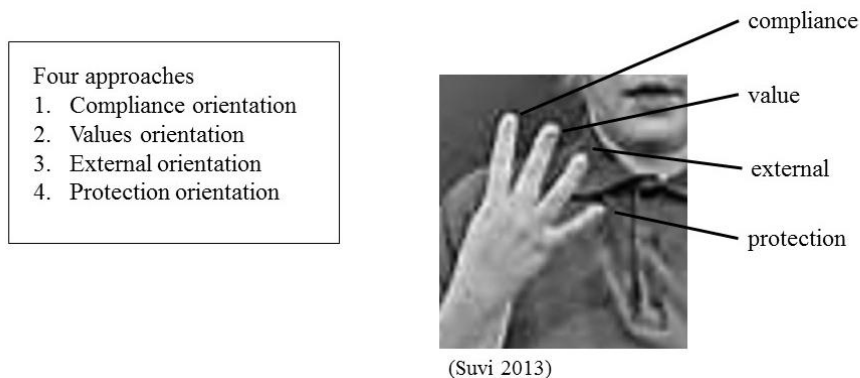
compliance

value

external

protection

(Suvi 2013)

Figure 7. List buoys' relation to slide

The list buoy is then followed by different structures. Similar to all of these is the presence of an English spoken form mouthing. In the case of "compliance" list buoy is followed by fingerspelled sign and list buoy. "Value" is executed by a structure presented in Figure 8. Here it is worth noting that the concept value is produced three times: two times by producing the equivalent FinSL sign and once by producing fingerspelled sign.
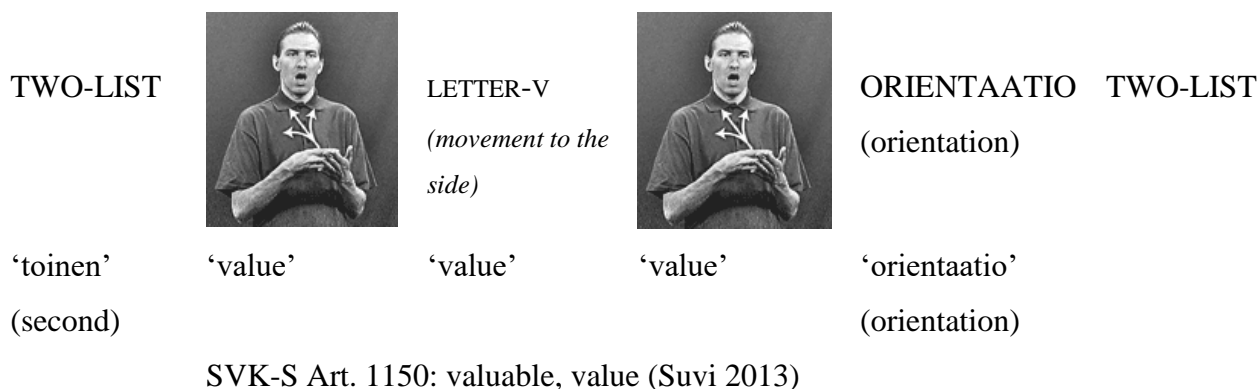

TWO-LIST		LETTER-V *(movement to the side)*		ORIENTAATIO TWO-LIST (orientation)
'toinen' (second)	'value'	'value'	'value'	'orientaatio' (orientation)

SVK-S Art. 1150: valuable, value (Suvi 2013)

Figure 8. "Value"

In the case of "external" after the list buoy fingerspelled sign, LETTER-E is also produced with the mouthing 'extern-'. This is then followed by two signs, one with the meaning external or outside and the other meaning area or space. The final item on the list, "protection" is produced by the structure FOUR-LIST + SIGN with an English mouthing.

These four sequences, individually and together show how visual representation can be included to the interpretation. These kinds of structures can be used especially when the interpreters have had the chance to prepare for their assignment or are able to see the structure represented in the visual aid. I argue that in these situations chaining is at least partly used as a device to lighten the interpreting

task. This concurs with Gile's Effort Model, which was introduced shortly in Section 2.3. By making use of already existing visual solution in her interpretation, the interpreter does not necessarily strain her working memory as much as otherwise. Also by using the same structure or layout as in the visual aids it makes it easier for the client or in this case for the student to link the information on the slide to the message conveyed by interpreting.

4.2.10 SIGN + f-i-n-g-e-r-s-p-e-l-l-i-n-g (+ SIGN)

This realization is local chaining. There were three sequences in this category. First, a sign for a source text concept is introduced and then the concept is fingerspelled. This might be followed by a repetition of the same sign. This process of chaining is depicted in Figure 8. I argue that at least in part these kinds of constructions are used to make sure the accuracy of interpretation and to provide both the FinSL and English terms.
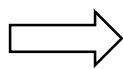
F-I-N-A-N-C-E

'talous'   'finance'

SVK-S Art. 541: economy, finance, do business, business, currency (Suvi 2013).

Figure 9. "Finance"

4.2.11 Mouthing + SIGN (+ F-I-N-G-E-R-S-P-E-L-L-I-N-G)

The three items in this category are brought together not only by their form but also their function. They seem to be related to the co-operation between the interpreters. All of them first employ English mouthing which is directed to the interpreter in the supportive shift. With this action the active interpreter asks for support. Even though the active interpreter makes this request, in all of the cases they continue on without input from the supportive interpreter by producing either SIGN or SIGN + F-I-N-G-E-R-S-P-E-L-L-I-N-G. Although mouthing is directed to the supportive interpreter and not part of the interpretation, I argue that it can be considered as a part of chaining process. It is also visible even when not directed to the Deaf student.

5 Conclusion

The objective of this study was to find out if interpreters use chaining in their interpretation and if they do, what kind of semiotic resources they employ and what are the possible functions of chaining. The findings of my study show that chaining is present in this multilingual-multimodal interaction. Resources that are used are sign, fingerspelled sign, fingerspelling, and employing the visual layout of slides. Also mouthing is used and this study highlights its prominent role in the process of chaining and bringing the English element to it.

Chaining serves different functions in the data discussed in this work. In some cases chaining seems to have a distinguishing function, and especially mouthing is used to keep different concepts separate. There seems to be some concepts that are systematically represented via chaining in order to mediate the concepts in English to the Deaf student, for example, the substance matter concepts "manage" and "supervisor". It is also used to highlight equivalencies between two languages by presenting both the meaning and the form. Also important function is to convey the subject matter concepts.

Chaining is also used as a tool to refer to something context-dependent. It can also be argued that one potential function of chaining is meaning-negotiation. It is also used to link the information represented in the visual aids and the interpretation. It also serves as a tool for making sure that the message is clearly and accurately conveyed.

In some sequences where chaining occurs it can be asked whether it is actual chaining or a manifestation of the interpreting process. However, I argue that at times chaining is used consciously to ease the interpreting process. Also because interpreting is taking place between two non-native languages this can also affect when and why chaining is used. Therefore, it would be beneficial to study further if and how chaining is utilized as an interpreting strategy and what is the distinction between chaining and other means.

Chaining plays a part also in the interaction between the two interpreters. It can be used to request for support. And at times chaining can also be distributed between the interpreters. In these cases, both the active interpreter and the supportive interpreter take part in the process of interpretation by anticipating, supporting, producing and monitoring.

By using a multimodal approach, I have been able to recognise the different semiotic resources used in chaining. From the context where the sequences take place I have been able to conjecture the functions of chaining. However, the analysis of the functions might have benefitted from other methods as well. Nonetheless, a multimodal approach to interpreting is called for.

The 11 categories of different realizations of chaining that were created in this study are based on a single lecture and generalizations cannot be done, as the results can be wholly context dependent. However, many possibilities for further research are opened up and this study creates a base for it. In the future comparisons between the results presented here and data collected from other contexts, also from those that do not include a third language, can provide a more in-depth results of how, when and why chaining is used. Also the prominent role of mouthing calls for additional research.

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