

ENGLISH IN INTERPRETATION TO FINNISH SIGN LANGUAGE:  
The forms and functions of chaining sequences in educational interpreting

Master's Thesis  
Marjo-Leea Alapuranen

University of Jyväskylä  
Department of Language and Communication Studies  
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<p>Tässä tutkimuksessa selvitettiin ketjutusta (chaining) kieleilyn (languaging) käytänteenä viittomakielen tulkkauksessa. Tutkimuskysymyksinä esitettiin, mitä semioottisia resursseja viittomakielen tulkit käyttivät englantia sisältävissä ketjutussekvensseissä sekä mitä funktioita em. sekvensseillä oli. Tutkimuksessa tuotettiin yksityiskohtaista kuvausta autenttisesta aineistosta.</p> <p>Tutkimuskohteena oli kolme englannin kielestä suomalaiselle viittomakielelle tulkattua korkeakoululuentoa. Luennot videoitiin ja niistä paikannettiin ne kohdat, joissa tulkkeessa esiintyi englantia. Nämä kohdat annotoitiin käyttäen ELAN-annotointiohjelmaa.</p> <p>Englantia sisältävät ketjutussekvenssit jaoteltiin muodon ja funktion mukaan. Muodon perusteella ketjutussekvenssit luokiteltiin kahteen pääluokkaan: simultaneous chaining ja local chaining (Bagga-Gupta 2000). Pääluokkien sisälle muodostettiin vielä käytettyihin semioottisiin resursseihin pohjautuvia tarkempia alaluokkia. Sekvensseissä esiintyi seuraavia semioottisia resursseja: viittoma, sormiaakkosviittoma, sormitus, englanninkielinen huulio puhutussa ja kirjoitusasua vastaavassa muodossa sekä suomenkielinen huulio. Ketjuttamisen funktioita olivat englanninkielisen luentodiskurssin ylläpitäminen, semanttisesti lähekkäisen käsitteiden erottaminen toisistaan sekä käsitteiden tarkentaminen sekä yhteyden luominen eri visuaalisten informaatiolähteiden välillä. Lisäksi ketjuttaminen voi ilmentää tulkkaukseen liittyviä kognitiivisia prosesseja.</p> <p>Sekvenssien analyysi osoittaa, että tulkit käyttävät ketjutusta joustavasti tulkatessaan englanninkielistä luentoja suomalaiselle viittomakielelle. Tutkimuksen kontekstissa tulkit hyödyntävät vapaasti kieleilyn repertuaariaan tässä tehtävässä.</p>	
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## 1 Introduction

Signed language interpreting research can still be seen as an emerging research discipline, even though research has been conducted since the 1970s (Napier 2011: 370). To date, research has mostly covered topics such as interpreter training, settings and modes in which interpreting takes place, the quality of interpretation, as well as linguistic and cognitive issues related to interpreting (Metzger 2006; Grbic 2007; Roy and Napier 2015). In most of the studies so far, interpreting and interpretation have been approached from a traditional viewpoint on language, in which languages are seen to be separate from one another.

This study can be seen as a part of a larger shift starting from Wadensjö's (1998), Roy's (2000) [1989] and Metzger's (1995; as cited by Napier 2011) seminal studies that acknowledge that interpreters are participants in the interaction and that their decisions during the interpretation have an effect on the produced target text<sup>1</sup>. It also approaches signed language interpretation from a multimodal and multilingual viewpoint. More precisely this study examines the interpreted situation from the point of view of *linguaging* (see Chapter 2). Linguaging refers to the view in which language is not seen as a closed semiotic system but instead language users have a repertoire of meaning-making features from which they can draw on when conveying a message (García and Wei 2014: 42). It also involves the current view, in which communication is viewed as something that does not take place via only language, but people utilize different semiotic resources in their communication, i.e. communication is multimodal.

This study looks into how the interpreters can utilise the whole repertoire that is available to them in the context of their interpretation. The specific focus is on the *chaining* sequences (see Chapter 2.2) that take place in authentic interpretation settings from English to Finnish Sign Language (FinSL) in higher education. In chaining different semiotic resources are used together to express a meaning (Bagga-Gupta 2004: 183). The analysis focuses on those chaining sequences produced by the interpreters where English is present and considers what semiotic resources are used in these sequences and what kind of functions the sequences have.

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<sup>1</sup> Source text refers to the original text that is to be interpreted into another language. Target text refers to the interpreted utterance.

The data consists of three lectures in Business Studies taught by three different lecturers. There is one deaf student taking part on the study module. During these lectures three interpreters are working, two on each lecture. All of the interpreters are non-native users of FinSL. The study module is taught in English. The use of English as the language of instruction can be seen to be a part of a larger change in higher education as Finland already in 2012 had the highest percentage (82%) of higher education institutions in Europe that offer English-medium master's programs (Välilä et al. 2013). This development is a part of a core strategy of national internationalisation policies, which, according to Finnish Ministry of Education (2009), is needed for societal renewal, for promoting diversity and networking as well as for national competitiveness and innovativeness. This drive for internationalisation along with the fact that the number of deaf students in higher education has risen, highlights the need for microanalysis of interpreting practices in settings where the interpreters work between two non-native languages. These kinds of situations where interpreters are not working with their native language are growing more common in the field of signed language interpreting. Since there is not much research on the field, using naturally occurring data is wise in order to find out how the interpretation is carried out in a certain place and at a certain time.

The presence of the source language, in this context English, in the target language production, i.e. the interpretation to FinSL, has traditionally been seen as interference. Based on the analysis of my data, I argue, however, that from the viewpoint of languaging the use of English is a valuable semiotic resource that is used in chaining sequences at least in parts strategically by the interpreters as an important element for the meaning-making process. The decisions made by the interpreters while doing their work in a certain context and moment realize as an array of used semiotic resources and their combinations. By looking into these sequences, a valuable description of what happens during interpretation can be gained.

Napier (2005, as cited in Napier 2011: 368) states, that due to the variety of educational settings where interpreters work, and particularly the variety within higher education settings, "more consistency and quality in interpreter education, training, and accreditation" is called for. I do concur with Napier's statement and think that interpreter education has to be able to provide the interpreting students with strategies and tools to be used in work, also in demanding situations. In my research, I examine and report of what kind of practices are taking place in the situations. Hopefully, these observations will be found useful and utilized

in the interpreting education as well as by practising interpreters.

In the following chapters, I will first discuss the notions of chaining and languaging in Chapter 2 and what they can offer for the examination of interpreted situation. Then in Chapter 3 the focus is on some relevant concepts related to Finnish Sign Language. These are introduced so that also a reader, who is not necessarily familiar with FinSL or signed languages in general is able to follow the analysis. In Chapter 4 the focus is on signed language interpretation to again bring out aspects relevant for this study. The data, its gathering and processing, as well as the ethical aspects related to it are discussed in Chapter 5. The analysis of the data is presented in Chapter 6 where I will focus on examples that demonstrate how English is present in the interpretation via different constellations of semiotic resources. These examples display both simple and more complex forms that chaining sequences can take. Bagga-Gupta (2000) has called these *simultaneous chaining* and *local chaining*. The examples also illustrate the functions of chaining sequences that are present in the larger data set. These findings will be further discussed and still tied to the larger framework of this study in Chapter 7. The study will end in concluding remarks.

## 2 Languaging

In the following two sections I will present the notions of languaging and chaining. These concepts will be defined and their relevance for the present study discussed. They will be approached especially from the point of view what the utilising of these concepts can bring to the field of signed language interpreting research.

### 2.1 Interpreting from multimodal and languaging point of view

This study will contribute to the field of sign language interpreting research by inspecting the interpreted situation and interaction in it from the *multimodality* and *languaging* viewpoints. In multimodal approach to interaction, all the different semiotic resources that are used for communication are taken into account. In this study I therefore set to find out how the interpreters can utilise the whole repertoire of meaning-making features that are available to them in the context they are working in.



Jewitt (2014a: 1) says that the social interpretation of language and what is meant by the concept of language is now extended to include also a range of representational and communicational modes or semiotic resources that are used in making meaning in a culture. In this study, the concept semiotic resources will be used to refer to the resources that people draw on in specific moments and places (Jewitt 2014a: 2). According to van Leeuwen (2005: 285), semiotic resources mean the actions, materials and artifacts that are used for communication. Semiotic resources are the means of communication, e.g. language, gestures, facial expressions, written text, photographs, and the ways that these resources are used in different situations. 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. For example, in different cultures same affordance can be used differently. Kress (2014: 62–63) gives an example of the use of pitch in different cultures. In English, pitch movement has grammatical purposes for differentiating between questions and statements. In tone languages pitch or tone is used, among other things, for lexical purposes: a change in tone produces a different word. Additionally the meaning of the semiotic resource can arise as late as in the concrete situation where it is used. Then there can also be difference in the intended and perceived meaning: for example, gestures can have different meanings in different cultures.

At the core of the concept of languaging there is the understanding that language is not a separate, autonomous or closed semiotic system but speakers can select and freely combine multimodal meaning-making features that work and convey best the desired message in a particular context (García and Wei 2014: 42). From the perspective of languaging, language is seen as a dynamic process that consists of action and doing. These actions take place in different contexts that are built on the human mind, interaction, and the social, political, and material world (Dufva, Aro, Suni and Salo 2011: 29). Language systems and other semiotic resources can merge freely and take on significant meaning and indexicalities in practice. This open system can be appropriated for new contexts and purposes with new meanings. (Canagarajah 2013: 11.) The different normative discourses related to different contexts may, however, regulate the use of different semiotic resources (Jewitt 2014b: 24). For example, institutional norms provide ‘rules’ on how different semiotic resources can be used: When working on the field of law, whether it is in a court room or in the conference room, for example, even the vocabulary that the interpreter uses can have far-reaching consequences. In a lesser extent, this also applies to interpreting taking place in an educational setting.

Educational institutions, and for example academia, have ways in which things need to be talked about and specific concepts which need to be used if one wants to be taken seriously and understood correctly. In these cases, it is the interpreters' work to convey these ways of communicating from the source text to the target text.

The concept languaging was first used by Chilean biologists Maturana and Varela who in 1973 wrote about the theory of autopoiesis, which means that our biological and social history of actions cannot be separated from the ways in which we perceive the world (García and Wei 2014: 7). Languaging then refers to the simultaneous processes of becoming ourselves as well as our language practices that we use when interacting and making meaning in the world (ibid.: 8).

A concept that is used almost interchangeably with languaging is translanguaging. Lewis, Jones and Baker (2012: 641) define translanguaging as a “spontaneous, everyday way of making meaning, shaping experience, and communication by bilinguals”. The concept has its roots in the 1980s Wales where it was coined as a reaction against the English language dominance and Welsh language endangerment and it referred to the planned and systematic use of two languages during the same lesson both for teaching and learning. On a more global and general level the spread of translanguaging has to do with the shift of paradigm from many negative ideas about bilinguals and bilingualism towards a more positive view that can be seen not only in the field of academics but also in changing politics and public understandings on bilingualism. (ibid.: 642–643.) For example, nowadays parents from different linguistic backgrounds are more often encouraged to use their native languages with their children than before and early bilingualism has been showed to have its advantages.

Ofelia García has extended the scope of translanguaging beyond mere pedagogy. García (2009: 44) sees translanguaging as an approach that is centred on the observable practices of bilinguals instead of on the languages. García and Wei (2014: 42) define translanguaging as the acts of languaging between linguistic and semiotic systems.

Even though the scope seems to have been widened, most of the research using the term translanguaging is done in the educational context. Possibly this is due to the concept's historical roots or the fact that translanguaging speaks for societal change and strengthening the status of minority languages (e.g. García 2009; García & Leiva 2014), and schools and

other educational settings are important places where norms of language use are created and strengthened. Because the focus of this study is on the observation of practices I will use the term languaging that seems more neutral in its stance even though the two concepts can be seen to be interchangeable. Both languaging and translanguaging reject the notion of separate, autonomous and closed linguistic and semiotic systems and also see language use and meaning-making as a multimodal action where the individual draws on a vast repertoire of semiotic resources.

One might ask why the perspectives of multimodality and languaging are relevant for the study of signed language interpreting. I conceptualize interpreting as a meaning-making process. The primary tools for this process are the source language and the target language. In interaction and communication, as described above, people do not draw merely on linguistic resources but they have a variety of resources to draw on. This means that the interpreter, as a participant in an interaction also has these different resources available. This is especially true in signed language interpreting where due to the modality of the signed language (some of the effects of modality are discussed in Chapter 4.1), the interpreter needs to be visibly present in the situation in contrast to spoken language conference interpreter working from a booth. It could be said that often the signed language interpreter has a larger repertoire of semiotic resources in her or his use than spoken language interpreter. This study intends to describe and report how signed language interpreters draw on their repertoires to effectively and strategically convey a message. The meaning-making features that they utilize are not always linguistic and therefore viewing the interpreted situation from a languaging and multimodality perspective contributes to the field. In previous research, the actions of an interpreter have been examined mostly from linguistic perspective rather than from a multimodal and languaging point of view. This argument is further discussed in Chapter 4.

## 2.2 Chaining as a languaging practice

In this study the focus is on a languaging practice that is called *chaining*. Chaining refers to an interactional pattern where different languages and modalities are used together, i.e. chained to one another, to convey a meaning (Bagga-Gupta 2004: 183). These meaning-making elements can be used consecutively or simultaneously and the produced sequences can be complex or simple. In chaining activities, linguistic and other semiotic resources and

members' participation are intertwined (Gynne & Bagga-Gupta 2013: 493). An example of a consecutive chaining sequence is when a teacher first writes a word on the blackboard, then reads it out loud and then points at it. The teacher can also produce the equivalent word from another language. This kind of an action can be used, for example, to emphasize and highlight the meaning of the concept. Chaining sequences can be found both in monolingual (e.g. Quinto-Pozos & Reynolds 2012) and multilingual (e.g. Bagga-Gupta 2004) contexts.

The first studies on chaining were set in educational settings where both signed and spoken languages were used. Chaining has been researched in the USA in American Sign Language (ASL) and English educational settings (Humphries and MacDougall 2000; Padden 1996a; 1996b); and in Sweden with Swedish Sign Language (SSL) and Swedish (Bagga-Gupta 2000, 2002, 2004). In Finnish setting, Tapio (2013, 2014) has discussed chaining when analysing how English is present in the everyday lives of FinSL signers. Recently the scope of the studies on chaining has widened. The study of chaining covers now also settings without signed languages. For example, Gynne and Bagga-Gupta (2013) have studied the interplay of Finnish and Swedish and Messina Dahlberg (2015) has studied virtual sites.

As Gynne and Bagga-Gupta (2013: 493) state, chaining is a useful concept when one wants to examine the practices utilised in multilingual contexts. Bagga-Gupta (2000; 2004) identifies three types of chaining which can be actualized via different semiotic resources. 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 language varieties or modalities are used sequentially. Humphries and MacDougall (2000: 87) give an example where first a word is fingerspelled (i.e. produced letter by letter with the manual alphabet), then the same word which is written on the blackboard is pointed at, and finally the word is fingerspelled again. The function of local chaining can be to bring out equivalencies between two languages, as mentioned above, or on the other hand to highlight the distance between the two linguistic or modal resources (Bagga-Gupta 2004; Humphries and MacDougall 2000). These functions can be achieved, for example, by producing a sign which is then followed by fingerspelling. Tapio (2013; 2014) has also identified *distributed local chaining* where several participants are involved in the chaining sequence by saying a word in Finnish, saying it in English, fingerspelling, typing etc.

The second type of chaining, *event* or *activity chaining* is tied to the different phases of the interaction. Depending on the phase that is taking place, different language varieties are used. (Bagga-Gupta 2000). For example, in an EFL lesson, the instruction phase of the lesson may be in English but then the grammar section can be conducted in the students' native language.

The third type of chaining Bagga-Gupta (2004) calls *simultaneous* or *synchronized chaining*. She has identified at least three types of cases where two language varieties or systems are chained to each other in a synchronized manner: when interpreting takes place, 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 reading it by signing. In Alapuranen (2016), it was reported that simultaneous or synchronized chaining can also be realized by the simultaneous use of manual and non-manual articulators as well as by the simultaneous use of both hands.

To summarise, chaining is one manifestation of languaging practices. There are different types of chaining: local, event and simultaneous in which the different linguistic and other semiotic resources are used simultaneously or sequentially. Chaining can be viewed as a tool for analysing multilingual and multimodal situations in order to reveal the fluid languaging practices taking place.

This study contributes to the field of sign language interpreting research by concentrating on the chaining practices of sign language interpreters – a topic which is not discussed so far in depth, although Alapuranen (2016) presents preliminary findings. The analysis will take notice of what types of chaining take place and which semiotic resources are used in these sequences. Therefore, it sheds new light on the variety of semiotic resources that can be employed and are employed by the interpreters.

### 3 Finnish Sign Language

The following chapter is not to be considered as an in depth and all-encompassing description of Finnish Sign Language (FinSL) or signed languages in general. The aim of this chapter is solely to provide tools for understanding my analysis also for the reader who is not familiar with signed languages. In parts, the chapter relies heavily on studies made on other signed

languages than FinSL. Therefore, it is good to keep in mind that the findings of these studies are not necessarily directly applicable for FinSL.

### 3.1 Concepts related to signed languages

In the following, I will discuss few central concepts related to signed languages. This section aims to provide basic understanding of these concepts that are referred to in the analysis.

#### 3.1.1 Sign

In many cases *sign* is assumed to be analogous to the concept of word (e.g. Zeshan 2002: 153–156; Sandler and Lillo-Martin 2006: 6). However, this presumption is not without contradiction. Jantunen (2010: 12–14) argues that even the concept of ‘word’ is not yet defined precisely in linguistics. Also word and sign differ, for example, in that two signs can be produced simultaneously, one with the right hand and the other with the left hand (Zeshan 2002: 167–169; Vermeerbergen, Leeson and Crasborn 2007), whereas words cannot be produced simultaneously. Also as Jantunen (2010: 13–14) points out, the morphological differences between word and sign mean that the definition of the concepts differs. He (2010: 14) continues that a sign’s level of iconicity is often more transparent than that of a word and it has a closer relationship to manual gestures.

Signs are seen to consist of *handshape*, *place of articulation*, *movement*, *orientation* of the hand, and *non-manual elements*. Handshape refers to the position of the fingers during the sign. Place of articulation is the location either on the signer’s body or in the space in front of him or her where the hand is located. Movement is usually the movement of the fingers, hand, arm or upper arm. Orientation refers to the directionality of the fingertips and palm. When considering the structure of sign, non-manual elements usually refer to movements or postures of the mouth. (Jantunen 2003: 28).

#### 3.1.2 Fingerspelling and fingerspelled sign

As Tapio (2013: 149) points out, people often “assume that fingerspelling is producing a

written word with handshapes that are iconic representations of orthographic letters.” However, not all fingerspelled signs are iconic to their written equivalents. As Mulrooney (2002: 5) emphasises, even though the development of manual alphabet may be due to language contact between a signed and spoken language, it does not mean that fingerspelled signs are letters.

In FinSL a so called international manual alphabet is used (Salmi and Laakso 2005: 319). The term *the manual alphabet* means here the set of sign language signs that refer to the written alphabet. The term *fingerspelled sign* is used to refer to the tokens of fingerspelling. *Fingerspelling* refers to the producing of a string of fingerspelled signs. In this study, I will follow the convention used by, for example, Patrie and Johnson (2011) 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.

There is only little research on fingerspelling in FinSL, except for some smaller investigations such as Jantunen and Savolainen (2000, as cited in Tapio 2013). That is why this section relies mostly on what researchers on American Sign Language (ASL) have found out. It is important to keep in mind, however, that the findings on international studies are not necessarily equivalent to the situation with regards to FinSL.

According to Jantunen (2003: 80), in FinSL fingerspelling is used as a way to create new signs. This might come into question for example when proper name has no sign equivalent, or when the signer or the recipient does not know the sign, or when the signer wants to emphasize the form instead of the concept. Similar usage has been reported on other signed languages as well, for example, Patrie and Johnson (2011) on ASL. But there are also differences between signed languages in their use of fingerspelling. For example, Patrie and Johnson (2011: 67–68) mention ASL using fingerspelling more frequently than other signed languages.

In their study regarding ASL and fingerspelling taking place among ASL users, Patrie and Johnson (2011) divide fingerspelling into three different categories: the first is *careful fingerspelling*, the second *rapid fingerspelling*, and the third *lexicalized fingerspelling*.

Careful fingerspelling usually takes place when a proper noun is first mentioned, the

fingerspelled sign is produced fully and the duration and emphasis on each sign is roughly the same (ibid.: 57–58). Careful fingerspelling is often accompanied by mouthing (see the following Chapter 3.1.3 for mouthing) that resembles the mouth movements of speaking the word (ibid.: 59). Also when producing careful fingerspelling, the signer might also signal that fingerspelling is about to occur. This can be accomplished either by looking at the fingerspelling hand or by pointing to it with the other hand. (Patrie and Johnson 2011: 75.)

Patrie and Johnson (2011: 59, 72) also mention letter-by-letter fingerspelling which is in other ways similar to careful fingerspelling but it is accompanied by mouthing reminiscent of the production of the spoken names of each letter. Its function is to refer explicitly to the customary spelling of a written form.

Rapid fingerspelling refers to fingerspelling that usually is not the first occurrence of the particular fingerspelled form (Patrie and Johnson 2011: 90–91). According to Patrie and Johnson (2011: 93), the function of a rapid fingerspelling differs from that of a careful fingerspelling. Whereas careful fingerspelling is used when introducing a form or emphasising it, the function of rapid fingerspelling seems to be to remind the observer of a previously seen sequence. To achieve this goal, the production of fingerspelling is, as the name of the category implies, rapid and much less complete than in careful fingerspelling, for example, fingerspelled signs may be missing, they may not be in their ordinary form and they may not receive much emphasis or time.

Lexicalized fingerspelling means those instances where fingerspelling has become lexicalized. These are already part of the lexicon of the signed language and they have regular form. Also, their rhythm tends to be more similar to other signs of the lexicon than the rhythm of fingerspelling. (Patrie and Johnson 2011: 128.) Examples of lexicalized fingerspelling in FinSL are, for example, the signs for the days of the week (e.g. Art. 926, Suvi 2013), taxi (Art 928, Suvi 2013) and Hyvinkää (Art. 1458, Suvi 2013)<sup>2</sup>.

### 3.1.3 Mouthing and mouth gesture

Sign language mouth patterns can be divided into two categories: *mouth gestures* and

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<sup>2</sup> Suvi is the online FinSL dictionary, [www.suvi.viittomat.net](http://www.suvi.viittomat.net). Art. refers to the number of the article.



*mouthings*. Mouth gestures are unique idiomatic gestures. They are the patterns that are formed within the sign language and they do not bear resemblance to the mouth movement of spoken language. (Sutton-Spence and Boyes Braem 2001: 1; Rainò 2001: 41.)

In this study, I will concentrate on mouthings as my focus is on how English is visible in the interpretation. Mouthings are those patterns that are derived from spoken language (Sutton-Spence and Boyes Braem 2001:1). They can be whole words, or more often word parts (Boyes Braem 2001: 100). The status of mouthing is not clear in the field: some claim that mouthings are coincidental to sign languages and not part of them. (Sutton-Spence and Boyes Braem 2001: 1<sup>3</sup>.) The differences in viewpoints might be partly due to different definitions of the concept or the fact that mouthing is used differently in different signed languages. Rainò (2001:41) states that mouthings are a part of FinSL because already small deaf children use Finnish mouthings when producing signs, even though they are conversant with only a few Finnish words.

According to Rainò (2001: 41), how FinSL users use mouthing varies from signer to signer and is context-dependent. Usually mouthing co-occurs with signs that could be classified as nouns and often the mouthing is reduced to a monosyllabic form (Rainò 2001: 42, 44). Mostly mouthing begins and ends simultaneously with the sign. However, this is not necessarily the case, mouthing's duration can be longer than a sign's duration. (Rainò 2001: 43; Rauhansalo 2015.) A study of Swiss German Sign Language (DSGS) found four different types of coordination between the mouthing and manual sign: mouthing and sign match each other, one mouthing is stretched over two or more manual signs, several mouthings are produced with one manual sign and mouthing appears alone without an accompanying sign (Boyes Braem 2001: 106). Also, in the case of British Sign Language (BSL) it has been found that mouthing can occur without a manual component, i.e. a sign. In these cases, the influence of the spoken language is great and the mouthing somehow dominates the manual component. (Sutton-Spence and Day 2001: 83.)

With regard to DSGS and comparison between early and late deaf learners of the language, Boyes Braem (2001) introduces different functions for mouthing. The functions that are most relevant for this study are summarized below. Mouthing can be used to fill lexical gaps in the

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<sup>3</sup> For discussion see e.g. Ebbinghaus and Hessmann (2001) on German Sign Language (DGS).

sign language. This was especially prominent with the late learners of DSGS whose vocabulary was smaller than the early learners'. This function is often achieved by using mouthing without a manual sign. (Boyes Braem 2001: 110.) Also the later learners sometimes used only mouthing to indicate their other language, German, even when they knew the conventional sign (*ibid.*).

Mouthings could also have lexical and grammatical functions. It was used to avoid homonyms of manual forms and to derive new lexical items. Also it was used to distinguish the meaning of polysemic signs. At times, it was used to make the meaning of the manual sign more precise. When used like this, mouthings are a device to fill the lexical gap and to derive new lexical items. However, in DSGS it has been noticed that often there are also minor manual or facial differences in the derived form. (Boyes Braem 2001: 111). These homonym-avoiding and derivation functions have been reported also on FinSL (e.g. Pimiä 1990, Rainò 2001) and, for example, Italian Sign Language (LIS; Ajello, Mazzoni and Nicolai 2001:235). Boyes Braem (2001: 111–112) with regard to DSGS, as well as Rainò (2001) concerning FinSL have discovered that mouthing can be used to intensify the meaning of the manual sign, for example by signing GUT and having the mouthing 'sehr'. This often requires the presence of non-manual elements as well. Intensification can also be achieved by repeating the mouthing with the same meaning as the manual sign.

### 3.2 Simultaneity in signed languages

*Simultaneity* is widely used in signed languages. The simultaneity can be constructed different ways based on which articulators are used (e.g. Vermeerbergen, Leeson and Crasborn 2007a; Sandler and Lillo-Martin 2006; Boyes Braem and Sutton-Spence 2001). Vermeerbergen, Leeson and Crasborn (2007b: 2–3) divide the types of simultaneity into three categories.

The first category is *manual simultaneity* which occurs when the two hands are used as autonomous channels and each of them conveys different information. According to Miller (1994a; 1994b as cited in Vermeerbergen et al. 2007b: 1), the produced signs can be complete signs in each of the hands or one hand can hold the end-state of the sign in position as the other hand continues to sign. The latter construction helps guiding the discourse and is called *buoys* by Liddell (2003; see also Varsio 2010 for discussion on buoys in FinSL). Another

example of manual simultaneity are constructions involving classifiers (Vermeerbergen et al. 2007b: 2). Classifiers can refer to a handshape or a combination of a handshape and orientation of the hand that represents a certain referent or an aspect of it: A classifier can represent the whole referent, the shape and size of a referent or the handling of the referent. (Jantunen 2003: 73; Takkinen 2010: 104–108.)

The second category is *manual-oral simultaneity*. In the instances of this category oral channel and manual channel are used at the same time. (Vermeerbergen et al. 2007b: 2–3). This category was discussed above in Chapter 3.1.3 with regards to mouthing.

The third category that Vermeerbergen et al. (2007b: 3) introduce is the *simultaneous use of other (manual or non-manual) articulators*. This category includes other non-manual features than the mouth. These articulators can combine with each other or with manual or oral articulators. Examples of these kind of articulators are eye gaze and body shift. This type of simultaneity relates often to the simultaneous expressions of different points of view. These have been called, for example, *blends* (e.g. Liddell 2003; Leeson and Saeed 2007), *highly iconic signs* (e.g. in the research on French Sign Language (LSF) Risler 2007; Sallandre 2007) or *simultaneous perspective constructions* (e.g. in the research on German Sign Language (DGS) Perniss 2007).

As explained above, simultaneity is widely exploited in signed languages and in signed discourse. Sandler and Lillo-Martin (2006: 492–493) argue that one of the reasons for this is that the articulators used can articulate independently of each other, i.e. the reason is already in human physiology. Research has also shown that a possible explanation for simultaneity of structure is that signers have shorter working memory span than speakers (Krakow and Hanson 1985, Wilson and Emmorey 1997). A suggested reason for this is that signs take longer to articulate (Emmorey 2002, as cited in Sandler and Lillo-Martin 2006: 493). This results in simultaneity within a sign as it would be partly mandated by processing constraints. Also the visual modality affords the operation of different independent articulators at the same time, because the use of vision as a receiving sense allows us to process and distinguish simultaneous meaningful units (Janzen 2005: 83). These aspects naturally have effect on signed language interpretation as well which will be discussed in the next chapter.

## 4 Signed language interpreting

Even though research on signed language interpreting has been conducted since the 1970s, it can still be seen as an emerging research discipline (Napier 2011: 370). So far, the research on signed language interpreting has looked into an array of different topics. The research has covered topics such as interpreter training, ethics and interpreter's role. It has also looked into the different settings where interpretation takes place, working modes (simultaneous and consecutive interpreting) and professional issues such as health and working conditions. Also socio-cultural, cognitive and linguistic issues have been discussed. (Metzger 2006, Grbic 2007, Roy and Napier 2015.) However, linguistic studies of interpreting have been based on a traditional perspective on language: language is viewed as a closed system with no in-betweens, no matter what the context and the affordances provide.

This study can be seen to be a part of a larger shift towards a multimodal and multilingual perspective on language and communication. In the field of signed language interpreting research, due to the visual nature of the language and the obviousness of the interaction between different modalities, the multimodality of the situation has been more often acknowledged than in the field of interpreting research in general. However, in the field of interpreting research the multimodal turn is emerging as more and more data is being captured with video recording (Tuominen et al. 2016). In the Finnish setting, the focus of Finnish Sign Language research has been on the description of the structure of FinSL (Jantunen 2008). However, there has been a rising interest towards multimodality in signed language interaction.

In the Finnish context, Tapio (2013) analysed how English is present in the everyday lives of FinSL signers from a multimodal and multilingual perspective. Also a few recent Master's theses can be seen as a part of this field: Rauhansalo (2015) has focused on the spreading of mouthings in FinSL. Kujanpää (2016) discusses the multimodal resources in a Finnish language classroom with signing students. Tjukanov (2016) looks into the code-switching practices in the classroom interaction of hearing sign language interpreter students and teachers. Laine (2016) has looked into the use of gaze and body in community interpreting situations that include moving from one place to the other. Of these studies, only Laine focuses on interpreted interaction.

Since the seminal works by Roy (2000) [1989] and Metzger (1995, as cited by Napier 2011) investigating signed language interpreting and Wadensjö's (1998) study of spoken language interpreting it has been recognised that interpreters are participants in dialogic interaction. In dialogic interaction interpreters are not invisible but they are in fact active participants who take turns and manage the communication (Metzger 1999; Angelelli 2004, as cited by Napier 2011). This study focuses on the actions and interactions of the interpreters and sheds further light on how interpreters make decisions and choices during the interpretation which influence the produced target text.

In the following sections I will discuss those aspects of sign language interpreting that are relevant for the analysis of my data from the viewpoint of multimodality and languaging. I will focus on the wider context in which the interpretation takes place before narrowing to the actual analysis in Chapter 6. Firstly, I will discuss the effect that working in a simultaneous mode has on interpreters' work. Secondly, I will discuss the different languages and modalities that are present in the data and how they may affect the interpreting and the choices that the interpreters make in general. Thirdly, I will move into the setting. There the focus is on how the educational setting affects the interpreted situation. Fourthly, I will focus on business studies lecture as a discourse context. At the end of this chapter I will summarise the discussed aspects.

#### 4.1 The effects of working in a simultaneous mode

Interpreters can work in consecutive mode or simultaneous mode. When an interpreter works in consecutive mode, the interpretation is produced after the source language utterance is finished. In simultaneous mode, the interpretation is produced as the source language text is being presented. (Pöchhacker 2007: 18.)

Sign language interpreters work mostly in the simultaneous mode. One reason for this is that in consecutive mode note-taking is often used and as sign language interpreters work in visual channel there are not many possibilities to take part in other activities that require visual attention, such as note-taking. Also it is possible for the sign language interpreter to start their rendition already as the producing of the source-language text is ongoing because neither

voice-over interpreting nor signing cause interference in the acoustic channel. (Pöchhacker 2007: 19.) However, when working in simultaneous mode, the sign language interpreters need to constantly work between two modalities, which is not without problems as will be discussed in detail below in Chapter 4.2. Sign language interpreting in simultaneous mode does not require special equipment the same way as spoken language simultaneous interpreting in some cases (ibid. 20).

Also in educational settings, such as the one discussed in this study, sign language interpreting is simultaneous interpreting. One very practical reason for this is that lectures are not adapted for consecutive interpreting. If they were interpreted consecutively, the lecturer's non-verbal communication and, for example, the used visuals would be out of sync. Consecutive interpreting would be a viable option only if teaching were structured accordingly.

Even though the mode of interpreting is called simultaneous, in the interpreting there is always some lag between the source language text production and the rendition of it in target language. This means that, for example, when the teacher or the lecturer asks a question or refers to a slide, the participants relying on the interpretation receive the message a bit later than those who can access the information directly.

The cognitive processing that the interpreters perform has been a central theme of empirical research in the field of interpreting studies in general, focusing especially on the spoken language conference interpreting (Pöchhacker 2007: 113). The topics have covered aspects of bilingualism, simultaneity, comprehension, memory, production, input variables and strategies (Pöchhacker 2007). Pöchhacker (2007: 11) defines interpreting as “a form of translation in which a **first and final rendition in another language** is produced on the basis of a **one-time presentation** of an utterance in a source language” [emphasis on the original]. In this study interpreting does not only make use of source and target language but also other semiotic resources that can be part of the source text or the target text. As these descriptions of the concept of interpreting point out, the cognitive task of interpreting is not a light one. If the aspects relating especially to the context of this study are added - working between two non-native languages and two modalities in a simultaneous mode (see Chapter 4.2) - the analysis could be expected to reveal that at times during the interpretation, the cognitive processes of the interpreter become visible in the target text.

To explain the cognitive processes that are involved during interpreting I will discuss Daniel Gile's Effort Model for simultaneous interpreting. The model aims to explain the different aspects that are part of the interpretation process. The model has been developed and extended from the 1980s onwards. Even though the model is developed in the context of spoken language interpreting it is also used in the field of signed language interpreting research (e.g. Leeson 2005). The following description of the model is quite simple for explanatory purposes (Gile 2009: 158), but already via it the complexness of interpreting task becomes evident.

Interpreting requires something Gile (2009: 159) calls *mental energy* that is only available in limited supply. The process of interpreting can take up almost all of the mental energy, and sometimes it requires even more than what is available and at these times the performance of the interpreter weakens. The more automatic a certain process is, the less processing capacity or attention and therefore mental energy it consumes. Also non-automatic operations take time, whereas automatic operations are fast. If the processing capacity is insufficient, the performance deteriorates. In interpreting skills acquisition, the gradual automation of cognitive operations is important.

According to Gile (2009) simultaneous interpreting (SI) can be simplified in a formula  $SI = L + P + M + C$ . In this oversimplified form simultaneous interpreting (SI) consists of Listening and Analysis Effort (L), Short-term Memory Effort (M), Speech production Effort (P) and a Coordination Effort (C). These different processes are not linear but at any time a different number of the Efforts are active (Gile 2009: 168–169). For example, if the speaker pauses and the interpreter produces a speech segment that she or he has planned beforehand, only one Effort, P, is active, whereas in the other end of the continuum the interpreter might listen, memorize and produce the target text all at the same time.

According to the model, the total processing requirements for all active Efforts need to be smaller than the total available processing capacity. When this requirement is not met, saturation arises and the quality of the interpretation suffers. Also if the available capacity is allocated inappropriately, problems may rise. (Gile 2009: 170.) For example, if too much capacity is given for the producing of a well-expressed target text, there might not be enough capacity left for listening to the input of source text.

It needs to be pointed out, that even if simultaneous interpreting is a difficult task, the interpreter can use different additional strategies to ease some of the difficulty. If the interpreter is well-prepared, he or she will be at an advantage (Janzen 2005: 95). Preparing consists of not only active preparation towards the task at hand; also of knowledge building up in long-term facilitates the interpreting process. Janzen (2005: 95) reminds that while preparing the interpreter should also consider the register and genre of the occasion. The more the interpreter knows beforehand of the situation, the more capacity she or he is left with for the interpreting process. Even though signed language interpreting is usually conducted in the simultaneous mode, Janzen (2005: 96) suggests that one way to alleviate the interpreting process is to use consecutive mode instead. It has the advantage that the interpreter receives a sufficient amount of source text before producing target text. However, consecutive mode is not an option that fits into all situations, for example, as discussed above in relation to educational settings and lectures. In these cases, the interpreter may lengthen her or his processing time, i.e. the lag time. This means that the interpreter has more time to listen into the incoming information before starting to provide target text output.

To cope with the possible problems during the interpretation the interpreters can also make strategic decisions. Cokely's (1992) miscue analysis presents the following as errors but professional interpreters have reported to use these purposefully. The choices that interpreters make are strategic omissions, additions, substitutions, and paraphrasing. If there are more than one interpreter in the situation, the interpreters can also work together when the source-text is more difficult. The interpreter can also inform the participant of an interpreting problem. (Leeson 2005: 58–63.)

With regards to his model, Gile talks about the quality of interpretation. In this study, however, I am not concentrating on deciding and judging what kind of interpretation is of a high quality. The reason I am discussing Gile's model is that it can in parts of the data shed light on the question why interpreters do what they do. Looking the chaining sequences from this perspective can bring additional insight on what might be the reasons for interpreters' actions and decisions. This perspective is especially useful when considering the functions of chaining sequences: Are the interpreters possibly working close to their maximum available capacity and is that why English language appears in the interpretation? In other words, is the use of English unintended, or can their actions be taken as an attempt to save their resources?



## 4.2 Different languages and modalities

Sign language interpreters work most often between a spoken and a signed language. This switch from a spoken to signed or vice versa brings about with it two different modalities. The spoken language is used in the oral-auditory modality, whereas the signed language takes place in a visuo-gestural modality. Below I will firstly discuss the different languages and secondly the different modalities that come into play in the context of this study.

Even though sign language interpreters in Finland do not actually refer to their working languages as A-, B- and C-languages, in this section I will use the distinction to discuss a phenomenon of working between two non-native languages that is an essential aspect of the data discussed in this thesis. According to AIIC<sup>4</sup> (2016) guidelines interpreters' working languages are divided into A-, B- or C-languages. A-language is the interpreter's native or best language; B-language is an 'active' language, i.e. the interpreter commands a near-native proficiency in it; C-language is called a 'passive' language which means that the interpreter understands the language (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) states also 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 should always be the source language and never the target language. Most of the sign language interpreters in Finland are non-native signers (Roslöf and Veitonen 2006: 164) who have acquired the language in their adulthood. However, they still usually interpret simultaneously from A into B (Pöchhacker 2007: 21).

In the data that is analysed in this work, the interpreters are working between two non-native languages. The source language is English and the target language is Finnish Sign Language, these can be seen to be B1 or B2 languages for the interpreters. These kinds of situations where interpreters do not at all operate in their native language are becoming more common in Finland and also globally. Scholl (2008: 331) explains the reasons for this as follows: deaf people have better access to higher education, they travel more, and globalization is present also in the deaf community. Nilsson (2009: 1) acknowledges that interpreting to a third

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<sup>4</sup> AIIC, the International Association of Conference Interpreters

language is a practice among European sign language interpreters. Also Scholl (2008: 340–341) concludes that working between two non-native languages is a reality for sign language interpreters which cannot be escaped. She emphasizes the need for more research on the topic and also more education for interpreters on how to adjust their interpreting methods in order to work efficiently. This study focuses on the forms that chaining takes in interpretation and why it is used. Analysis of these can provide information on the interpreting methods that are used.

Not only are sign language interpreters working between two languages, but they are also working between two modalities: the oral-auditory modality utilised by the spoken language, as it is conveyed through auditory and vocal channels, and the visuo-gestural modality of the signed language where the message is received through the visual channel and produced with movements of the hands, face and body. It has been suggested that this kind of division between modalities adds to the interpreting task (Janzen 2005: 82–83). Even though the two modalities and languages also share features (e.g. conventionality of vocabularies and productivity), there are significant differences between spoken and signed languages that impact the overall structure. For example, there are differences regarding the properties of the articulators and the two perceptual systems. (Meier 2002.) As discussed above in Chapter 3.2, because of the differences in articulators and therefore modality, the two languages work in different ways: Spoken languages can be seen to be more linear, meaning that one word is produced after another and the message is more sequential in nature. Signed languages on the other hand rely more on the simultaneous production of elements. Therefore, this process is referred to as bimodal interpreting. (Napier 2011: 363.) Also, as Brennan and Brown (2004, as cited in Napier 2011) put it, in signed languages the ‘real-world’ visual information needs to be encoded as well. According also to Napier (2011: 364), working between two languages and cultures and also between modalities that work differently adds an extra dimension to the interpreting process.

#### 4.3 Educational interpreting

Educational interpreting refers to interpreting that takes place in educational institutions and it is conducted in all levels of education, from kindergarten to higher levels. The goal of educational interpreting is to make it possible for the deaf, hard-of-hearing and hearing

students or teachers to participate in the educational setting where everyone does not necessarily use the same language. (Koukka 2010: 59–60.) In this study the focus is on a setting where there is one deaf student taking part in an otherwise hearing group.

Educational interpreting is a field that is not necessarily as familiar in the field of spoken language interpreting as it is in sign language interpreting. The shift in policies of deaf education from segregated special schools to inclusion in mainstream schools and deaf students better access to higher education make educational interpreting a very common working setting for sign language interpreters. The number of deaf students entering higher education is growing. Also they continue their studies further than previously.

Educational interpreting has been investigated, for example, from the psycholinguistic and sociolinguistic perspectives. The focus has been, for example, on the cognitive effectiveness of interpreted lectures (e.g. Cokely 1990), the kinds of linguistic coping strategies interpreters use (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). Also topics such as what kind of strategies are used by lecturers, deaf and hearing students, and interpreters to accomplish their roles in the learning process have been covered (Napier 2011: 367). In Finland, for example, Selin (2002) has conducted a small-scale case study on team interpreting in an educational setting.

Especially Anglo-Saxon studies of signed language interpreting often compare the effectiveness of different translation styles – interpretation and transliteration (i.e. signing with English word order) (Napier 2002; Marschark et al. 2004; 2005). Napier (2011: 365) discusses the findings of earlier studies and points out that instead of talking about interpretation and transliteration it is more useful to distinguish between free and literal interpretations. By free interpretation Napier, McKee and Goswell (2010: 30) refer to interpretation in which the interpreters “focus on freeing the interpretation from the actual SL [source language] words/signs used”. Literal interpretation is effectively interpreting into a contact variety of signed language, which closely follows the spoken language syntax and vocabulary (Napier, McKee and Goswell 2010: 31). Also the interpreter can in a literal interpretation incorporate visual-spatial linguistic features of signed language and the target text is not produced in spoken word order. It is found to be an appropriate translation style when combined with appropriate linguistic strategies (e.g. Marschark et al. 2004). Also in

some settings, deaf people may prefer this option in order to provide access to terminology and expressions used in the spoken language. Napier (2011: 364) states that the use of free or literal interpretation should be seen as techniques of interpreting that are both valuable and relevant due to the bimodal aspect of signed language interpreting.

In previous research it has been discussed whether in an educational setting the familiarity between the deaf participant and the interpreter(s) has an effect on the learning outcomes of the deaf college students. Marschark et al. (2005) measured the student-interpreter familiarity but found no empirical evidence for its impact. Interpreters and interpreter training, however, consider this aspect to be important and its relevance is emphasised to interpreting students. Marschark et al. (2005: 44) hypothesise that student-interpreter familiarity may create greater comfort in the classroom and have effects over the course of an entire semester.

From my professional experience as a sign language interpreter, I can tell that also in sign language interpreter education in Finland, similar emphasis is given to familiarising oneself with the client. Also, I think this to be beneficial, especially in the early stages of one's career. As Marschark et al. (2005:41) point out; experienced interpreters might have an advantage when meeting unfamiliar students in a class, as they already have a broader range of student communication skill and are familiar with a greater variety of instructor presentation styles. Therefore, for a less experienced interpreter the meeting of the deaf student beforehand can provide useful information and self-assurance. I also concur with Marschark et al.'s (2005: 44) hypothesis that student-interpreter familiarity creates greater comfort in classroom and has effects on longer timescale. When interpreter(s) and student(s) know each other, there usually is more mutual trust that the other will comment, for example, if a practice is not working or something needs to be adjusted in the situation. Also if the interpreter knows about the student's background and goals for learning this might help her or him to produce an interpretation that complements these in a best possible way. In the context of this study, the deaf student and the interpreters know each other and have worked together in different settings as well. This might affect the choices that the interpreters make, for example, in the number of instances when English is used.

#### 4.4 Lecture as a discourse setting

In a higher level educational setting, the most traditional form of teaching is a lecture. In an interpreted lecture, the participants are the lecturer, students and the interpreters. Goffman (1981: 165) defines lectures as “institutionalized extended holdings of the floor”. This means that one participant has control over the situation, he or she selects the subject, and decides when the discourse starts and finishes. The present day trend on lectures, however, is towards more interactive and conversational style. How much interaction there is during a lecture is governed by different factors such as class size or academic level. (Camiciottoli 2007: 50.) In this study the lecture discourse was quite monologic, although the lecturers tried to activate the students by asking questions, consequently trying to make the situation more dialogic.

Often the lecture is carried out in a platform arrangement (Goffman 1981). In educational interpreting setting, the traditional platform arrangement can be seen to be disturbed as two interpreters share the front of the classroom with the lecturer and occupy part of the space that is usually meant for the lecturer only. Also in principle, the interpreters have the possibility to ask for clarification and stop the lecturer therefore interrupting the proceeding of the lecture and interrupt the holding of the floor. However, in my data the interpreters do not interrupt the lecturer.

Lectures can be seen as an example of expert-to-novice communication (Camiciottoli 2007: 16). They also include similar asymmetrical relationship between the participants as in institutional discourse where the communication takes place between professional and lay persons (Drew and Heritage 1992: 3, as cited in Camiciottoli 2007). The lecture might have the aim to “impart knowledge, teach skills and practices, induct learners into discourse communities, promote critical thinking and encourage a positive attitude towards learning – all of which would come under a pedagogic umbrella” (Camiciottoli 2007: 16). Because the lecture has the goal to educate or to give the necessary tools for learning, the educational interpreting should support this goal.

Camiciottoli (2007) has looked specifically into business studies lectures. During a lecture, the lecturer might use different strategies to interact with students, for example, to facilitate their understanding on the topic. The used strategies can be, for example, discourse markers, questions, nonverbal behaviours that reinforce the verbal message, and use of visual tools. Her study shows that during business studies lectures an extremely rich repertoire consisting of both linguistic and extra-linguistic features is used. (Camiciottoli 2007: 190.)

In the data visuals are used and they also play a part in some of the chaining sequences analyzed. Camiciottoli (2007: 155) and Rowley-Jolivet (2002: 27–31) differentiate between different types of visuals: Scriptural visuals are mainly made up of text (e.g. numbered or bulleted lists). They are usually used to structure discourse, for example, by introducing the following topics or organizing important points. They also have the function of engaging the audience. Numerical visuals refer to tables and mathematical expressions. These convey abstract information that reflects a specific meaning (Lemke 1998b, as cited in Camiciottoli 2007). Also graphical visuals represent abstract concepts, but they are structured so that they convey an unambiguous meaning. Figurative visuals mean things like photos or images that can be ambiguous if further information is not provided. The reported functions of figurative visuals have been to arouse the audience's attention and to structure discourse as boundaries between sections (Rowley-Jolivet 2002: 31–37). Scriptural visuals may not require as much explicit verbal reference as numerical, graphical and figurative visuals (Camiciottoli 2007: 155). These visuals can be transformed into spoken discourse when the lecturer refers to them.

Camiciottoli (2007: 120) discusses the two approaches that business studies lectures have. Firstly, they have the goal of teaching the students about business, i.e., what kind of social and cultural impacts business has and how the students should evaluate this knowledge. Secondly, they have the goal of preparing students for careers in business. This is established by providing them with a set of knowledge and skills with which they are able to solve work-based problems. A part of this skill set is the acquisition of specialized lexis of the discipline. The use of specialised lexis in lectures not only transmits disciplinary knowledge but also situates the participants within the disciplinary community in question (Camiciottoli 2007: 127). Drew and Heritage (1992, as cited in Camiciottoli 2007) suggest that specialised lexis comprise the technical terms that are associated with a certain domain but also include items that are not necessarily technical nor domain-exclusive, but such that they have an important role in the context of interaction.

#### 4.5 Summary of the discussed aspects

Above in this chapter, different aspects related to signed language interpreting and especially

this study have been discussed. In this section I will discuss the main themes and their relevance for the analysis even further.

The above mentioned aspects each have more or less to do with the interpreting process. The cognitive processes related to interpreting were discussed in relation to Gile's Effort Model, which stated that mental energy available for interpreters is limited. Therefore, if one process requires more energy, the other processes are left with less (Gile 2009). In the context of this study, the interpreters are working between two non-native languages. The cognitive processes related to interpreting in this setting are therefore not as automatic as they would be if one of the languages would be their native language. These kind of situations are, however, becoming more common both in Finland and globally (Scholl 2008, Nilsson 2009), and interpreters manage to work in these cognitively demanding situations. This study aims to describe the practices the interpreters use in these situations.

As the interpreters are working between two non-native languages, they also work between two different modalities. This would be true also when they are working between their native spoken language and signed language. As stated by Napier (2011: 364), this kind of bimodal interpreting adds a new dimension to the interpreting task.

The interpreters in the study are working in the setting of educational interpreting and more specifically within a discourse setting. In educational interpreting, the interpreters need to take also into account the didactic aspect of the source text. For example, in the USA the different translation styles, free and literal translation, that could affect the learning outcomes of deaf students, have been studied (e.g. Marschark et al. 2004, 2005, 2008). Switching between these two translation styles have the potential to serve as resources for meaning-making.

In the context of educational interpreting the meaning of familiarity between the deaf participant and the interpreters has also been discussed (Marschark et al. 2005): As the participants get to know each other better it can ease the interpreting process as they also get to know each other preferences and way of working and studying.

The lecture setting brings with it affordances and constraints that give the interpreters possibilities to do their work as well as guide it. For example, an important affordance provided by the setting is the use of visuals as discussed by Camiciottoli (2007). However, at

the same time the lecture setting does not necessarily afford, for example, asking for clarification from the lecturer. As the lecture setting also has the dual aim of teaching the students about business as well as for business (Camiciottoli 2007: 120), this also affects the interpreters' work.

## 5 The present study

### 5.1 Research questions

The aim of this study is to explore the phenomenon of chaining in interpreted interaction from a languaging viewpoint. This is a novel approach to the study of interpretation in general, and in the study of signed language interpretation in particular. The study builds on an earlier analysis of chaining based on a smaller data that is now included in this study also (see Alapuranen 2016).

This study sets out to find out answers to the following questions:

- i. When chaining sequences including English are produced by the interpreters, what semiotic resources are used?
- ii. What kind of functions do the chaining sequences including English have?

### 5.2 Data collection

The data discussed in this study consists of three English-medium lectures that were interpreted into FinSL and took place in a higher educational setting. The reason this kind of data was chosen was that as it is naturally occurring data, it gives the researcher the possibility to see what is actually happening in the interaction involving the lecturer, the interpreters and the student. A naturally occurring data set also provides the possibility for a microanalysis of the situation in order to achieve a detailed description of the interpreting practices that are taking place. During data collection and the analytic process, I discussed with the interpreters generally about their work and how they felt about it. Also afterwards I showed some clips to the interpreters participating to the study with whom I discussed them. These discussions have informed the analysis.



These lectures were part of two courses, taught by three different lecturers, on the same study module. The study module was taught in English. Also the slides were in English.

Each of the three lectures was an example of 'English as a lingua franca'-situation as English is not the native language to any of the lecturers. The linguistic background of the students participating in the lectures is not known. However, as the lectures took place in a Finnish higher education institution and there were over two hundred participants in the course, it is clear that English was not a native language for most of the students. In fact, one of the implicit goals of English-medium instruction is not only to teach the subject matter to students, but also to improve their competence to use English in their professional field and to enhance their academic and professional skills (Westerholm and Räsänen 2015: 137). For the deaf student, English is accessible mostly through the used slides. Even though English does have a role also in the interpretation as the analysis will later reveal, it is good to note, that as the lectures are interpreted into FinSL, the deaf student does not receive the education entirely in English. How this dissonance affects, for example, the learning outcomes of the deaf students is an interesting question, but not in the focus of this study.

Two of the lectures (L1 and L3) took place in a traditional, mass lecture setting, where the lecturer, other students and the researcher were present. During the video recorded lecture (L2) only the deaf student, two interpreters and the researcher were present. Table 1 below presents an overview of the data.

There was one deaf student taking part in the module. On each lecture two of the three sign language interpreters, A, B, and C, were present. A was working during all the three lectures, B during one, and C during two. The two interpreters present on each of the lectures take turns in interpreting. They change between the roles of active and supportive interpreter approximately every 15 minutes. The interpreters work mostly in the simultaneous mode and even though they have a chance, they do not, for example, ask the lecturer to repeat what he or she has said during lectures L1 and L3. An exception to this was the second lecture, L2, which was a videotaped lecture and rewinding the tape was employed.

Table 1. Overview of the data

	<b>Setting</b>	<b>Interpreters</b>	<b>Length</b>
<b>L1</b>	mass lecture	A & B	01:26:50
<b>L2</b>	recorded lecture	A & C	01:34:40
<b>L3</b>	mass lecture	A & C	01:03:00

All three lectures were recorded by using two or three video recording devices. The first lecture, L1, was captured by using one tablet focusing on the interpreters and another one recording the student. Because of a wish from one of the subjects, an attempt was made to conduct the data collection in minimally invasive way. However, from this session it was learned that a general view that would also capture better the slides and the overall placement of interpreters and the teacher, would also be needed. This was taken into account in the subsequent recordings. L1 was interpreted by A and B. The length of the interpreted lecture was 01:26:50. During this session also field notes were made, pictures were taken to support the analysis, and the lecturer provided the slides that were used as supporting materials in the analysis. One of the interpreters also provided the material she had used while preparing for the assignment.

The second lecture, L2, involved interpreting a videotaped lecture. This lecture was recorded with two video cameras; one focusing on the interpreters and the other capturing a more general view that included the student, the laptop showing the lecture and a side-angle view of the interpreters. A and C interpreted L2, which lasted for 01:34:40. Also field notes were made and some pictures taken. The lecturer was contacted to request for the slides used. During the session, the videotaped lecture was paused and rewound by the deaf student per interpreters' request to ensure their understanding of the source text. The interpreters and the student also discussed and negotiated the content in the course of the lecture. These features are not present in the other lectures included in the data.

The third lecture, L3, was set in a mass lecture setting. The recording 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 using a tablet. The other video camera was used to capture a wider view of the lecture hall portraying for example the used slides, but not the lecturer as per her request. Also field notes were taken and slides were provided by the

lecturer to be used in research. The interpreters on this lecture were A and C. The length of the interpreted lecture was 01:03:00. Some aspects of L3 have already been analysed and discussed in Alapuranen (2016).

### 5.3 Ethical considerations in data collection

Each of the participants (the interpreters, the student, and the lecturers) in the study signed an informed consent form in Finnish, with the exception of the lecturer of L2 (the videotaped lecture), who gave permission via email. In the permission form, the participants gave their consent for using the recorded material for research purposes. The deaf participant had the opportunity to ask for clarification in Finnish Sign Language. In the informed consent form it was stated that the anonymity of the participants is protected during the research process as well as when reporting on its findings. However, without a separate refusal, the participants gave their permission for using parts of the video and audio material for reporting purposes and, for example, presentations without altering them. Refusal could be given by ticking a box in the permission form. The lecturer of L3 and the deaf student requested that all material which is presented in public, whether video or pictures, for example, still frames, needs to be altered.

These restrictions were considered already in the recording phase. Therefore, the lecturer of L3 was cropped out of the wider angle recording taking place in that lecture. This was the only lecture during which wider angle recording was conducted. Even though also the deaf student requested publicly shown data to be altered, the reactions and feedback by the student were recorded as they could prove to be important for the analysis. All of the interpreters gave their consent for using the data unaltered, as well as did the lecturer from L1. Other students taking part in the lectures were informed of the recording in the beginning and they were asked to contact the researcher if they wanted to make sure that their face would not be seen or voice heard at any point.

### 5.4 Data processing

For the purposes of the analysis, selected sequences from the recorded data were annotated by

using ELAN<sup>5</sup> (Eudico Linguistic Annotator). The selection was made based on the focus of this study and the research questions. Therefore, those chaining sequences that included English in mouthing or fingerspelling were chosen for detailed transcription and analysis.

ELAN allows the researcher to link annotations and time align them to the corresponding video segments (Perniss 2015: 63), and to examine the simultaneous actions taking place during the sequences. In ELAN different tiers are used for markup, and the transcription on each tier can be coordinated for distinct attributes. The programme can coordinate up to four video sources. (Frishberg, Hoiting and Slobin 2012: 1068.) It is an open source programme that can be developed by the users (e.g. Crasborn and Sloetjes 2008 on sign language corpora). Figure 1 is an example of how ELAN shows the relevant tiers for one sequence. The tiers used for one interpreter are presented in Table 2 below.

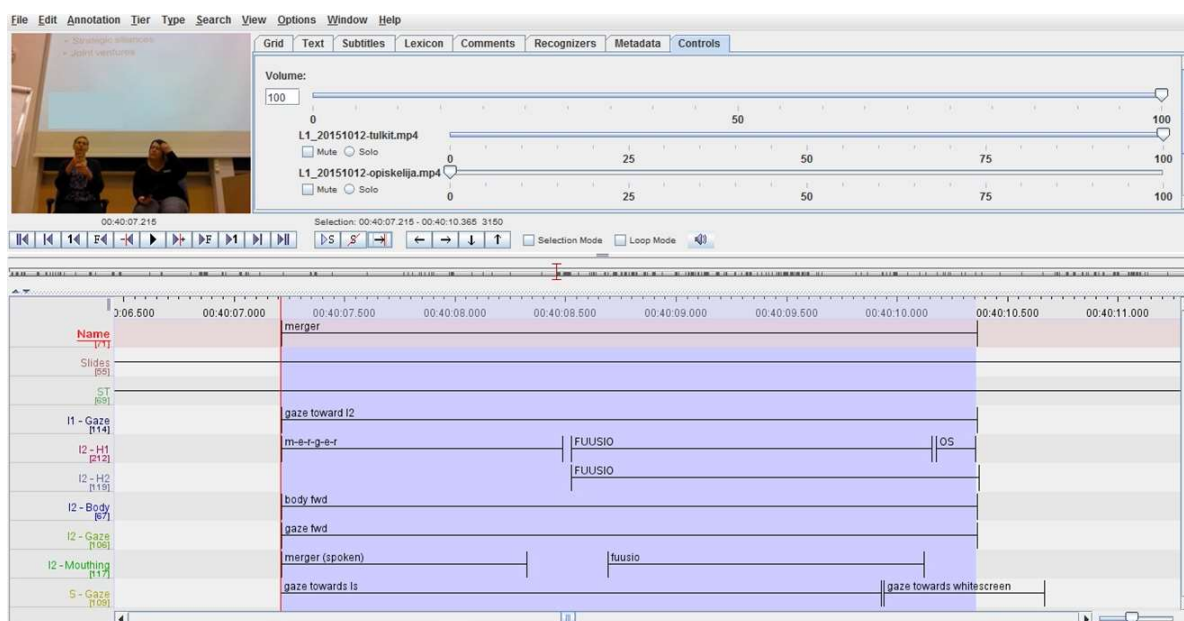


Figure 1. Example of view from ELAN on the relevant tiers on one sequence

As the main focus of my analysis is what kind of semiotic resources the interpreters use, I have made the annotations accordingly. For advice, I have consulted the annotation guidelines for Australian sign language corpus (Johnston 2014). Due to the focus of this study, special attention has been given to the actions of the interpreters. The tiers that are used for annotating the interpreters' actions are shown below in Table 2. In the annotation, also the

<sup>5</sup> Max Planck Institute for Psycholinguistics, The Language Archive, Nijmegen, The Netherlands  
URL: <http://tla.mpi.nl/tools/tla-tools/elan/>

source text produced by the lecturers and the visual aids they use are taken into consideration. I have also taken note of the student's actions, such as gaze and head movement or other verbal or embodied reactions to interpreters.

Table 2. Tiers used in ELAN

<b>Tier</b>	<b>Content</b>
H1	Dominant hand
H2	Non-dominant hand
Body	Body movement and direction
Face	Description of facial expression
Head	Head movement
Gaze	Direction of eye-gaze
Eye/Brow	Eye and brow movements
Mouthing	Mouthing of words
Mouth gestures	Mouth gestures form
Other	
Comments	For personal notes

For each identified chaining sequence I have noted down the uses of the dominant hand, such as the production of signs or fingerspelled signs, and possible other uses of the non-dominant hand (H2), mouthing or mouth gestures, other means that might have a communicational or interactional purpose (e.g. the interpreter in support shift pointing to a tablet and showing that to the interpreter in active shift<sup>6</sup>).

Because of the visual, multimodal and simultaneous nature of the data, and since one interesting aspect of it is the overlap of different semiotic resources, I will present the excerpts used as examples in the analysis by using still pictures taken from the video, and include tables to explain what is happening simultaneously and what sequentially.

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<sup>6</sup> Interpreters can work alone or in teams of two or more. There are different approaches on team interpreting. In my work I will view it as a collaborative and independent process as described in Hoza (2010: 8): The interpreters take turns in producing the output, they monitor each other's output and correct it if needed, they work independently and as a single unit by collaborating and making similar decisions. In this study the interpreter responsible for the producing of the target language in a given time is called as *the interpreter in an active shift* or *the active interpreter* and the other interpreter as *the interpreter in a supportive shift* or *the supportive interpreter*.

## 5.5 Method of analysis

In my analysis I have focused on those chaining sequences that include English. In all of the cases it is visible at least in the mouthing. In these sequences English mouthing can be either in the spoken English form (e.g. [ˈlæŋgwɪdʒ]) or written English form (e.g. [lɑnjuake]). Most of the instances utilised the spoken form of English words, 137 instances. Of the total of 163 instances 26 include the written English form in the mouthing.

At the first stages of the analysis the video recorded data was gone through systematically and the 163 sequences that included English were identified. These were then analysed using tools from multimodal interaction analysis. This allowed the micro level examination of the interpreters' languaging practices. For the identification of semiotic resources, I draw on Norris' (2004) work on communicative modes, which Tapio (2013) has elaborated in her study of English in the everyday life of FinSL signers. Table 3 below presents my adaptation of Norris' (2004) and Tapio's (2013) listing of semiotic resources in the situation.

Although I use the term semiotic resource instead of the concept communicative mode that is used by both Norris and Tapio, I see my definitions of these to be comparable to theirs. Norris and Tapio highlight the interactional communicative function of these modes. The aim of this study is to provide micro-level analysis of the different meaning-making units that the interpreters have in their use, however, and I do not feel that the scope of this study covers the aspect of interaction as thoroughly as, for example, Norris and Tapio do. Therefore, I use the concept of semiotic resources.

As Norris (2004: 11) emphasises, communicative modes, or semiotic resources for that matter, can be defined in various ways. She gives the example of layout as a mode, which "would include furniture, pictures on a wall, walls, rooms, houses, streets, and so on". But, depending on our interest and analysis, we can also consider furniture to be a mode. This is also visible in Table 3 which includes those semiotic resources that I have identified to have a part in the chaining sequences. For example, as discussed above in Chapter 3.1.3, there are different views on the relation of mouthing and sign language: whether mouthing is a part of sign languages or coincidental to them. For the purposes of this analysis mouthing and

Finnish Sign Language are defined as separate semiotic resources but I am not taking stance on their status.

Again, it is important to emphasise that the listing presented on Table 3 displays those semiotic resources that I have identified as significant. These are tied to the context of this study, and in other cases could be somewhat different.

Table 3. Semiotic resources in the data (adapted from Norris 2004 and Tapio 2013)

<b><u>Semiotic resources</u></b>	
Spoken language	English
Signed language	Finnish Sign Language
Fingerspelling	Finnish
	English
Mouthing	Finnish
	English: spoken form
	English: written form
Disembodied print	
Gesture	
Gaze	
Head movement	
Posture	
Proxemics	
Layout	

Based on their characteristic, the chaining sequences were then divided into two categories: simultaneous chaining and local chaining (see Chapter 2.2 on chaining). Those sequences, which were more simple and consisted of only the mouthing of an English word and another semiotic resource used simultaneously with it, were labelled simultaneous chaining. The more complex sequences that were sequential in nature were labelled local chaining. These were then divided into smaller categories based on their form. These categories are discussed below in Chapters 6.1 and 6.2.

For the analysis of what kind of functions these chaining sequences have, they were divided

into new categories. These categories were based on the analysis of the sequences in their immediate context and the functions that they could be argued to have in it. The functions are discussed in Chapter 6.3.

## 6 Analysis

Below I will discuss my findings in relation to the form that chaining sequences take in the data. The analysis is presented in two parts based on the categories of simultaneous chaining (Chapter 6.1) and local chaining (Chapter 6.3). Under these headings I will report what kind of semiotic resources were used as well as provide examples of different realizations of chaining. The main findings are summarised in Chapters 6.2 and 6.4. Following the description on form, in Chapter 6.5, I will concentrate on the functions that chaining can have. Especially in this chapter, my analysis has been informed by discussions with the interpreters taking part in the study as well as discussions taking place in the field of sign language interpreting and research.

### 6.1 Simultaneous chaining

In the data there were 73 instances that I have categorized as simultaneous chaining. In simultaneous chaining there was always English mouthing present and it was produced simultaneously with a sign, fingerspelled or fingerspelling as is represented in Figure 2 below. In the figure vertical line indicates simultaneity. The symbol / is used to indicate that either sign or fingerspelled sign or fingerspelling is used simultaneously with either a written form mouthing or spoken form mouthing. Spoken form mouthing is indicated by the square brackets. Similar symbols are used throughout this study.

mouthing / [mouthing]

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SIGN / FINGERSPELLED SIGN / F-I-N-G-E-R-S-P-E-L-L-I-N-G

Figure 2. Semiotic resources in simultaneous chaining

The instances of simultaneous chaining were placed in five different categories that are



represented in Table 4 below. The figures related to each category portray which linguistic resources were used during the chaining sequences. The resources are placed on top of each other separated with a vertical line to indicate that the actions were simultaneous.

Table 4. Categories of simultaneous chaining

	<b>Number of sequences</b>
<u>          mouthing          </u> SIGN	3
<u>      [mouthing]      </u> SIGN	49
<u>          mouthing          </u> F-I-N-G-E-R-S-P-E-L-L-I-N-G	9
<u>      [mouthing]      </u> F-I-N-G-E-R-S-P-E-L-L-I-N-G	8
<u>          [mouthing]          </u> FINGERSPELLED SIGN	4
<b>Total number of sequences</b>	<b>73</b>

The table also includes the number of sequences in each category. Of the 73 simultaneous chaining sequences over two thirds (49 items) used the simultaneous production of spoken form English mouthing and a sign. As will be explained in more detail below, this kind of chaining was used also as a part of local chaining sequences. Even though the number of occurrences, including those in more complex sequences, is quite high in relation to the whole data, it is important to note that there is quite a lot of repetition in the data. For example, just in its simplest form the word ‘manage’ or its derivatives are included in 17 instances and ‘leadership’ is produced seven times. Below I will discuss these examples as representatives of simultaneous chaining.

### 6.1.1 Examples 1 and 2 – 'leadership' and 'manage'

The following examples portray the most common single form of chaining in my data: simultaneous chaining where sign and mouthing of the English word in its spoken form take place. 'Leadership' and 'manage' were recurring concepts on one of the lectures. They were consistently produced with specific FinSL signs. 'Leadership' was produced with the sign displayed that has, for example, the meaning "to lead" and "to guide" (article 369, Suvi<sup>7</sup> 2013). 'Manage' was produced with the sign which has the meanings "to manage" and "to keep things under control" (article 410, Suvi 2013). Still pictures from these signs can be seen in Figure 3 and Figure 4 below. With article 410 there is one difference to the picture, however: In the data an alternative handshape, which is also reported in the Suvi website as a variant for the one seen on the picture was used. With these signs English mouthing of the concept in its spoken form was used, ['li:dʒɪp] and ['mæɪnɪdʒ] respectively.



Figure 3. Example 1 – 'leadership',  
Art. 369



Figure 4. Example 2 – 'manage',  
Art. 410

Also derivatives of 'manage', such as 'management', 'manager' and 'managers' were produced by using the same sign, Art. 410. The difference was in the mouthing which presented the whole word with its suffixes.

The reasons why this category is the most common of simultaneous chaining can be argued to be the repetition within the category and the fact that the interpreted concepts are central during the lecture.

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<sup>7</sup> Suvi is the online FinSL dictionary, [www.suvi.viittomat.net](http://www.suvi.viittomat.net). Art. refers to the number of the article.

### 6.1.2 Example 3 – ‘microeconomics’

The example ‘microeconomics’ is similar in its form to the previous Examples 1 and 2. Here as well, the sign and mouthing of the English word in its spoken form take place. Below in Figure 5, it can be seen how the sequence proceeds and the concept ‘microeconomics’ is constructed of two local chaining sequences. The source text (ST) uttered by the lecturer about eight seconds before the chaining sequence is “...so these the microeconomics and neoclassical school well they look at businesses as so called black boxes...” During the chaining sequence, the interpreter first produces the FinSL sign PIENI (small) which is then followed by the sign RAHA (money, price, be the price of). The mouthing, the spoken form of ‘micro’, i.e. [ˈmaɪkrəʊ], spreads over these two signs. In the latter part of the utterance the sign TALOUS (economy) is produced with the spoken form of English mouthing ‘economics’ or [i:kəˈnɒmɪks].



Figure 5. Example 3 – ‘microeconomics’

This example may indicate something about the interpreting process. The interpreter might use FinSL signs with mouthing of spoken English word because the Finnish equivalent does not come to mind or is not known. It might be judged a better option to have the mouthing, that brings out the concept in English than not to have mouthing at all, which could cloud the meaning of the used signs as well.

### 6.1.3 Example 4 – ‘entrepreneurship 14’

Example 4 also illustrates simultaneous chaining. During the first lecture (L1), the concept ‘entrepreneurship’ was interpreted 29 times in a way that includes English. The example below is the 14th time that the concept is interpreted. This was the simplest way, in terms of the number of semiotic resources utilised, that the concept was interpreted during the lecture.

In most of the other cases (19 in total) the concept was interpreted by producing English mouthing in spoken form which spread over both a fingerspelled sign and a sign.

In Example 4 the source text is “...and in already in year seventeen thirty-two he placed entrepreneurship in an economic context...”. The interpretation and the chaining sequence are delivered approximately 10 seconds after the beginning of the source text. In the example, the active interpreter produces a fingerspelled sign LETTER-E with a movement to the right and simultaneous mouthing of the English word in its spoken form [ , ɒntɹəprə' nɜː]. The mouthing still continues partly during the sign SANA (a word, a term). Below in Figure 6 is an overview of the sequence.

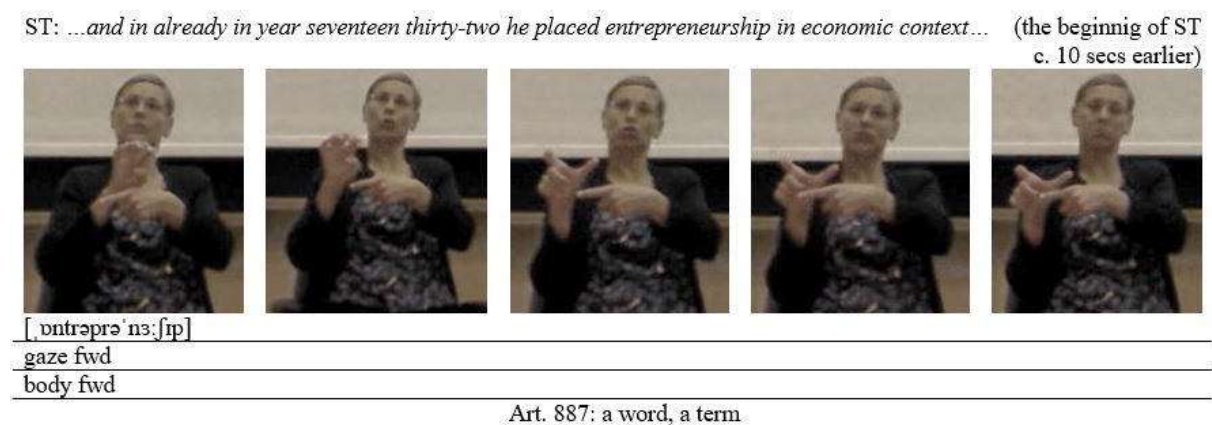


Figure 6. Example 4 – ‘entrepreneurship 14’

I will describe later in Chapter 6.2.1 another example of the interpretation of ‘entrepreneurship’. This chaining sequence presented in Example 5 shows the most complex way in which the concept is interpreted during the lectures by utilizing a variety of semiotic resources. Comparing these two examples highlights the variety of meaning-making features that the interpreters have in their use by showing how the same concept can be chained in different ways.

#### 6.1.4 Discussion on examples of simultaneous chaining

As these examples of simultaneous chaining highlight, mouthing of an English word is the main way in which English is introduced into the interpretation. This also applies to the sequences of local chaining discussed below. Mouthing, i.e. mouth patterns derived from

spoken language, is used in FinSL in general. Rainò (2001: 42–44) reports that mouthings in FinSL usually co-occur with signs that can be classified as nouns and often the mouthing is reduced to a monosyllabic form. In most of the cases of simultaneous chaining in my data, however, the mouthings that displayed the English word or concept were not monosyllabic but the word's root was produced as a whole and also the suffixes present in the source text were visible in the mouthing (e.g. 'manager'). Mouthing also co-occurred with signs that can be classified as verbs. These can be possibly explained by the fact that, as also Rainò (2001) points out, the use of a mouthing varies depending on the user and the context in question.

In the context of this study the source language is English. This already may affect how mouthing is used in this situation. Especially, as the interpreters are non-native users of English, the English mouthing, whether in a spoken or written form, might include the whole word more easily than if the mouthing was in Finnish or if the interpreters were native users of English.

The fact that the interpretation is taking place in an educational setting also has an effect. During their work, both during preparation and interpretation, the interpreters constantly assess which concepts are relevant. The instances of interpreting these relevant and central concepts often involve the mouthing of the whole word. This applies also to contexts where Finnish is the source language. Additionally, in the context of this study it is relevant to distinguish between, for example, manage, manager, and management or entrepreneur and entrepreneurship. Those are part of the substance vocabulary of the course. Therefore, English is used in the mouthing and in some sequences also in fingerspelling (an example of this will be given in relation to local chaining, Example 8).

## 6.2 Local chaining

The local chaining sequences are, as already discussed above in Chapter 2.2, sequential in nature. These sequences were longer and more complex than the simultaneous chaining sequences. In fact, most of the sequences labelled as local chaining included also simultaneous chaining as the mouthing had such a significant role in introducing English to the interpretation – the local chaining sequences most often consisted of two to three simultaneous chaining sequences. From the data 90 local chaining sequences including

English were identified. The figure below represents the different semiotic resources that were used in local chaining sequences in the data.

In the figure below, again the vertical line indicates simultaneous use of manual and oral articulators. Here slash, /, still indicates that one of the possibilities is used, however plus, +, adds the information that one or more can be used. Because I am looking into chaining sequences that include English, mouthing in Finnish ([Fin mouthing]) or no mouthing at all ([0]) cannot be the only feature produced by the oral articulator. That is why they are in brackets. They can only appear with English mouthing, to be included in the dataset. The other purely linguistic feature that could include English in the interpretation is fingerspelling, but fingerspelling of an English word does not co-occur with Finnish mouthing or without mouthing in the data.

Eng mouthing /+ [Eng mouthing] (/+ [Fin mouthing] /+ [0])  


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SIGN /+ FINGERSPELLED SIGN /+ F-I-N-G-E-R-S-P-E-L-L-I-N-G /+ nothing

Figure 7. Semiotic resources in local chaining

The semiotic resources produced by the manual articulators remain the same in local chaining sequences as they were in simultaneous chaining: sign, fingerspelled sign and fingerspelling. As a part of local chaining sequences they can however, appear without mouthing as well. Also mouthing can appear without an accompanying manually produced semiotic resource. Another significant difference when compared to simultaneous chaining was that, for example, during one mouthing more than one meaning-making feature could be produced by the manual articulators, i.e. more than one semiotic resource produced by the manual articulators could be used. An example of this would be when mouthing entrepreneurship, [ˌɒntɹəprəˈnɜːʃɪp], spreads to cover both LETTER-E and the sign YRITYS (company). Also, for example, during one sign the simultaneous mouthing could change from spoken English to the mouthing of a Finnish word.

The different realizations of local chaining were varied, as can be seen from the descriptions above. The role of mouthing was prominent also in this type of chaining. In each local chaining sequence at least two and a maximum of three mouthings ([Eng], Eng, [Fin], [0])

were produced. Below Table 5. Forms of mouthing in local chaining sequences shows the different kind of combinations that mouthing had as well as the number of occurrences in the data. In the table the first column shows the form of mouthing. For purposes of keeping the table as simple as possible, it does not include the information of how many times certain mouthing appears in the chaining sequence. Also the order of the mouthings in a certain chaining sequence can vary from that presented in the table. For example, Eng + [Fin] tells us that a chaining sequence can consist of English mouthing of a written form followed by Finnish mouthing but it also includes those cases, where Finnish mouthing is followed English mouthing of a written form and another Finnish mouthing of the same word. On the last row before the total *Eng word out loud* refers to a case where a word is said out loud by the active interpreter and then followed by the equivalent FinSL sign and Finnish mouthing.

The table highlights the importance of mouthing in including English into the interpretation. That is why the manually produced meaning-making features are not included in it. They have been left out in part also for the purposes of trying to keep the table readable, as the different combinations are quite varied and complex in places. However, the examples below show the interplay of different semiotic resources.

The table below shows the forms of mouthing in local chaining sequences. The second column labelled local chaining refers to those chaining sequences where only one person is taking part in the chaining process. From the larger category of local chaining a sub-category of distributed local chaining is separated. This includes those cases where more than one person is taking part of the chaining process. Distributed local chaining consists of cases where the two interpreters are working together and supporting each other's interpreting process by asking and providing support.

Table 5. Forms of mouthing in local chaining sequences

Form of mouthing	Local chaining	
		Distributed local chaining
[Eng] + [Eng]	32	3
[Eng] + [Fin]	19	1
[Eng] + [Fin] + [0]	2	
[Eng] + [0]	3	
[Eng] + Eng	2	1
[Eng] + Eng + [Fin]		1
[Eng] + Eng + [0]	1	
Eng + [Fin]	1	2
Eng + [Fin] + [0]	6	
Eng + [0]	1	1
Eng + Eng	6	5
Eng word out loud		1
<b>Total</b>	74	16

Next I will discuss four examples that show how local chaining sequences can be formed. Firstly, I will examine Example 5 – ‘entrepreneurship 15’, secondly, Example 6 – ‘retaliation’, thirdly, Example 7 – ‘impact assessment’, and fourthly Example 8 – ‘licensing’. Examples 6 and 7 show how local chaining can be distributed among participants.

### 6.2.1 Example 5 – ‘entrepreneurship 15’

Above in Chapter 6.1.3 in Example 4 another chaining sequence involving the concept ‘entrepreneurship’ was discussed. That chaining sequence was the 14th time the concept was interpreted during the lecture and the chaining sequence in question was quite simple in its structure. In the following, I will discuss the 15th time that this term is used and interpreted in the lecture.

While Examples 1 and 2 highlighted the consistent way in which simultaneous chaining can take place, Examples 4 and 5 bring out the variety even within the interpretation of one



concept. They can be seen to be in the opposing ends of the continuum from simple to quite complex chaining sequences.

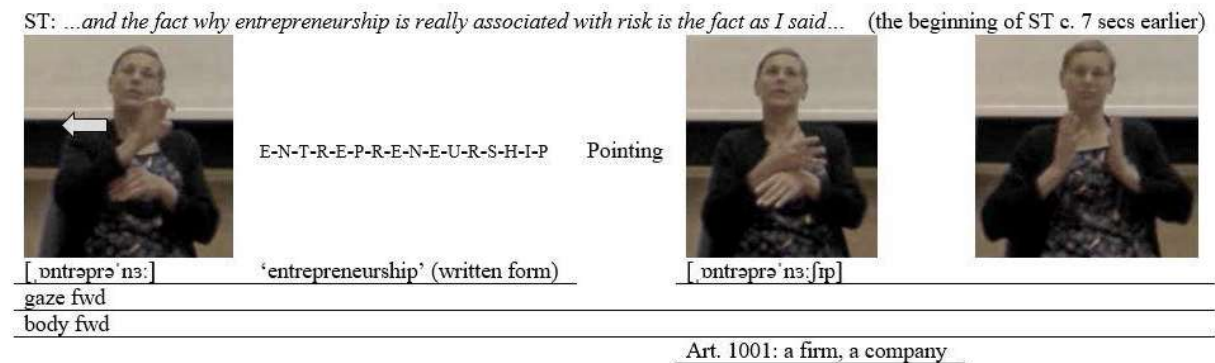


Figure 8. Example 5 – ‘entrepreneurship 15’

Example 5 shows well the interplay between different semiotic resources that the interpreters have in their use. During this sequence the lecturer talks about the difference between entrepreneurs and managers. The particular source text utterance in this occasion is “...and the fact why entrepreneurship is really associated with risk is the fact as I said...”.

In this occasion ‘entrepreneurship’ is interpreted in a quite complex way as can be seen from Figure 8 above. As a start the active interpreter produces a fingerspelled sign, i.e. LETTER-E with a movement to right, simultaneously with the mouthing ‘entrepreneur-‘ in its spoken form. This is then followed by fingerspelling E-N-T-R-E-P-R-E-N-E-U-R-S-H-I-P. At the same time the word ‘entrepreneurship’ is mouthed in its written form. After these, a pointing with both index fingers to the area in front of the interpreter occurs locating the abstract concept of entrepreneurship to that area. Finally, she produces two signs in FinSL YRITYS (a firm, a company) and –YYYS (-ship). The two signs together convey the meaning of entrepreneurship; the first can be seen to act as the root and the other as the suffix.

When comparing Examples 4 and 5 we can see how even during the same lecture and by the same interpreter, closely together in time, the same concept can be interpreted quite differently. This kind of comparison brings out the repertoire of semiotic resources that the interpreter has in her use.

## 6.2.2 Example 6 – ‘retaliation’

Example 6 – ‘retaliation’ also employs a mix of local and simultaneous chaining. It is also a good example of how the two interpreters work together during the interpretation. Even though only one interpreter is in the active shift, the supportive interpreter can also contribute to the interpretation, and the participants in the situation can be seen as resources as well. In this example the supportive interpreter plays a significant role, and chaining is distributed between the two interpreters and the text on the white screen originally produced by the lecturer. Figure 9 shows how the two interpreters and also the deaf student take part in the chaining process, the student by shifting gaze and reacting to the interpretation, as well as, by utilising visual aids. The following figure is not on scale or display the exact timing of events but gives an overview of the actions taking place during the sequence.

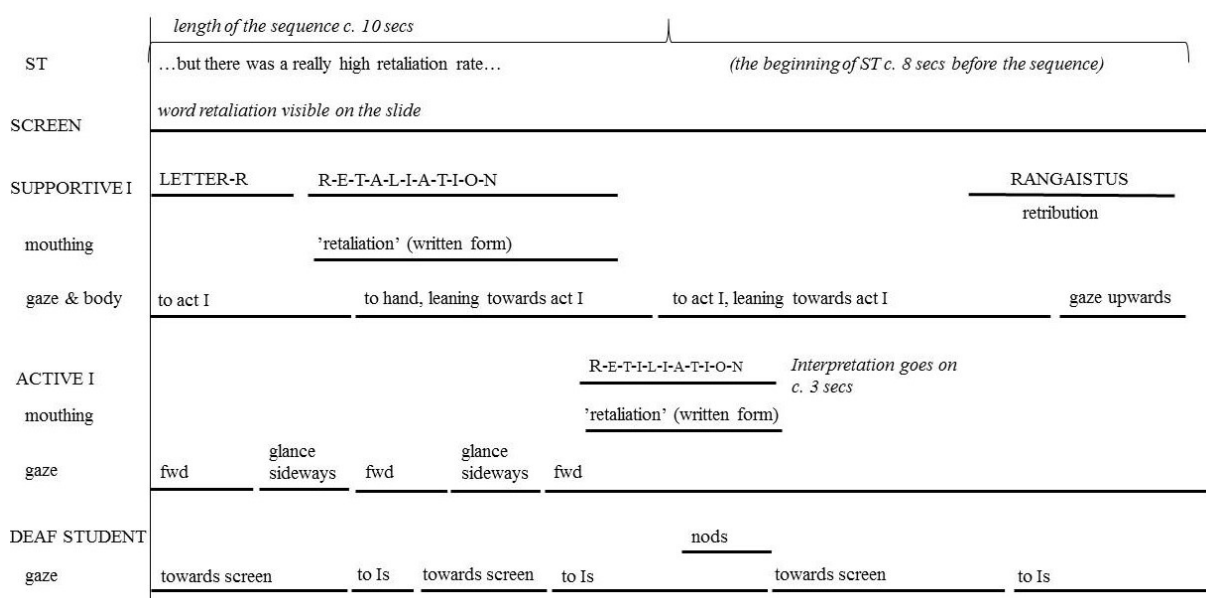


Figure 9. Example 6 – ‘retaliation’

During the sequence the word ‘retaliation’ is visible on the slide shown on the white screen. The word is not in a prominent position, however, and the slide contains quite a lot of text. The source text related to this sequence is “...but there was a really high retaliation rate...”. When the active interpreter approaches the part where the word ‘retaliation’ needs to be interpreted, the supportive interpreter forms LETTER-R (Figure 10) which I believe to be used as a mnemonic device, anticipating a possible challenge that might be faced by the active interpreter. The active interpreter glances towards the supportive interpreter from the corner of her eye. During this glance, LETTER-R is then followed by the fingerspelling R-E-T-A-L-I-A-

T-I-O-N accompanied by the mouthing of the English word in its written form. During this time the student glances to the white screen where the fingerspelled word is visible. As the student's gaze shifts towards the white screen, the active interpreter glances again at the supportive interpreter.



Figure 10. LETTER-R by the supportive interpreter



Figure 11. Simultaneous fingerspelling

After her glance and already during the fingerspelling produced by the supportive interpreter, the active interpreter also starts to fingerspell the same word. This simultaneous fingerspelling by both interpreters can be seen above in Figure 11. Again the manual action is accompanied by mouthing of the English concept in its written form, this time by the active interpreter. During this fingerspelling a misspelling takes place but the student nods to indicate understanding. After this, the interpretation by the active interpreter continues during which the student's gaze is directed towards the screen. After approximately three seconds, while the interpretation is ongoing, the supportive interpreter produces the sign RANGAISTUS (retribution, visible in Figure 12) that can be seen to be an equivalent for the source text notion 'retaliation' in the context. However, the sign is produced somewhat inattentively and, for example, its location differs from its standardized form. Also the gaze of the supportive interpreter is directed upwards during this, as if trying to retrieve the correct sign.



Figure 12. RANGAISTUS (retribution)

As the figures and description above show, this chaining sequence is quite complex and many semiotic resources are utilised during it. The sequence of local chaining in this case is distributed between the participants. First, LETTER-R is formed by the supportive interpreter. This already indicates to the observing student that something is happening or about to happen. Also, simultaneous chaining is employed as English mouthing accompanies fingerspelling. Both interpreters fingerspell the word ‘retaliation’ and accompany it with the mouthing of the English word in its written form. The fingerspelling occasions are then followed by the sign RANGAISTUS (retribution) without any mouthing. Production of the sign reinforces the message conveyed to the student. However, the sign is not produced in a prominent way but more in an inattentive fashion. The gaze of the supportive interpreter might indicate some level of uncertainty about the suitability of the sign or its equivalency to the concept. Also, based on the data it is not possible to say whether the student notices the produced sign.

### 6.2.3 Example 7 – ‘impact assessment’

In Example 7 – ‘impact assessment’ chaining is again distributed between the participants. In this example also the visual layout of the slide is taken into account and pointing gestures are used.

This sequence takes place during L2 in which the lecture was interpreted based on a recording made of it before. The student’s laptop was used to broadcast the lecture. On the video both the lecturer and the used slides were visible. The interpreters had the slides on a tablet. During this lecture the interpreters asked the student at times to stop and rewind the video. The participants also negotiated meaning and there was direct linguistic communication between the student and the interpreters.

In this sequence the source text is “...and then we can make the impact assessment accordingly...”. The slide that is visible on the screen at this point displays four boxes that are linked to each other by arrows. The box containing the word impact assessment is in the left-hand side down corner. This layout can be seen in Figure 13.

The gaze of the student shifts between the visual input provided through the slides and the

interpreters. The interpreters also utilise technology in this sequence. As can be seen from Figure 13 below, the supportive interpreter is pointing towards the tablet and moving her finger on it to show the active interpreter where in the slide the source text is referring to. The active interpreter shifts her gaze between the tablet and the student. This moving of the finger on the tablet by the supportive interpreter and the gaze shift by the active interpreter can indicate to the student that there is something relevant on the slide, similarly as the formation of LETTER-R in the previous example indicated that something is going to happen.

In the beginning of the sequence, the active interpreter's gaze is directed towards the tablet. She also produces the signs SEURAAVA (next), ALAS (down), and a pointing gesture directed low in front of her. This sequence draws its form from the slide. Before this sequence the layout of the slide has already been used when discussing the content related to the other boxes.

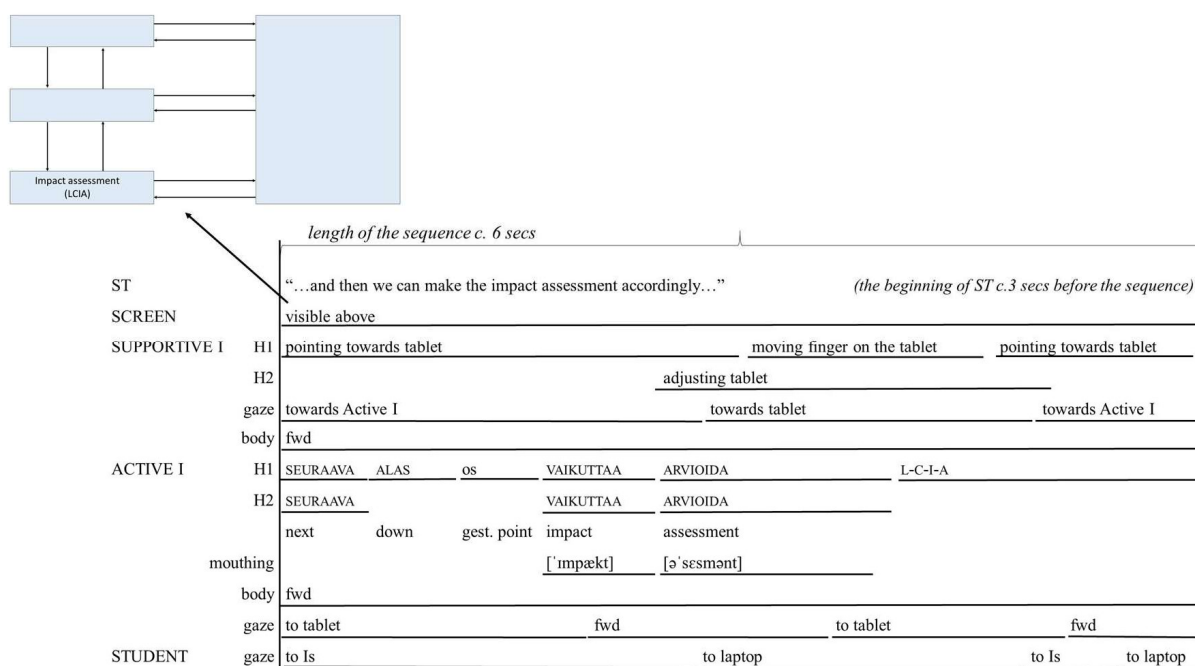


Figure 13. Example 7 – ‘impact assessment’

After referring to the layout of the slide, the interpreter produces the signs VAIKUTTAA (impact) and ARVIOIDA (assessment) which are respectively accompanied by the spoken form English mouthings impact, ['impækt], and assessment, [ə'sesmənt]. After this, the interpreter goes on producing the abbreviation related to the concept by fingerspelling L-C-I-A, which is presented on the slide but not part of the spoken source text. The use of English

mouthings here links the concepts on the slide to the content.


#### 6.2.4 Example 8 – ‘licensing’

The following example ‘licensing’ shows how the structure of the slide is introduced into the interpretation. It is also an example which uses a buoy construction, more precisely a list buoy-structure. It also shows the act of fingerspelling an English word and using FinSL sign, both accompanied by an English mouthing in a spoken form.


TITLE

- ....
- Licensing intellectual property
- ....
- ....


ST: ...licensing (.) so licensing intellectual properties... (the beginning of ST c. 2 secs before the sequence)



L-I-S-E-N-C-I-N-G



Pointing



LIST-2	[ˈlaɪsənsɪŋ]	[ˈlaɪsən]
gaze towards tablet	gaze fwd	
body fwd		

Art. 497: to promise, permission, promise

Figure 14. Example 8 – ‘licensing’

Above in Figure 14 the layout of the slide the lecturer has projected on the white screen is visible. There is a list with four bullet points on the slide. The second bullet point is “licensing intellectual properties”. As can be seen from the figure, as the chaining sequence begins, the interpreter is gazing towards the tablet where the same slide is visible. She has extended the index and middle finger of her left hand, a handshape that is similar to that used for the sign KAKSI (two) in FinSL. However, orientation and place differ from the standard form of KAKSI. She then touches the tip of the middle finger with her right hand index finger. The fingers on the left hand remain extended until pointing is over. As such, she produces a list buoy construction, which can be seen in the first still frame on Fig. 14.

List buoys are one category of buoys (Liddell 2003). Buoys refer to those constructions where the non-dominant hand, in this example the interpreter's left hand, produces a sign and holds it in stationary configuration while the dominant hand, in this case the interpreter's right hand, continues producing signs. Varsio (2010) has identified list buoys and other similar buoy constructions from FinSL as Liddell has from ASL. The functions Liddell (2003) has found for buoy constructions in general are maintaining the signing space, guiding the discourse and giving a possibility to refer to the entity the buoys represent later. According to Liddell (2003: 223) list buoys are used for making associations with from one to five entities. Pinsonneault and Lelièvre (1994, as cited in Varsio 2010) have also identified the functions of anaphoric references and of producing a visually available object of reference. Varsio (2010) states that in her FinSL data list buoys have the functions of anaphoric references and adding to the cohesion of the text. In this case, the list buoy guides the discourse. This construction is also used to tie the interpretation to the other form of visual input. This is a way to add cohesion in the interpretation. The implementation of buoy construction brings also the semiotic resource of disembodied print into the sequence, as the interpreter is reacting to a text produced by someone else.

The buoy construction is followed by fingerspelling of the English word. The fingerspelling in this sequence is what Patrie and Johnson (2011: 57–59) have categorized as careful fingerspelling in ASL. The word in question, licensing, is produced fully and the emphasis and duration of each sign is approximately the same. There is a misspelling in the interpreter's production. Also, similarly to Patrie and Johnson's (2011: 59) category, the fingerspelling is being accompanied by mouthing of spoken form of the English word. Here the mouthing is also the entire word ['ləɪsənsɪŋ].

Following fingerspelling, the interpreter's dominant, right hand index finger touches again the middle finger of the left hand. Then with the right hand index finger the interpreter points in the space in front of her. Pointing is followed by the FinSL sign LUPA (permission) in the mouthing the beginning of the spoken form of licensing appears ['ləɪsən].

This is an example of how different semiotic resources are intertwined in the interpretation as a result of the interpreter making use of the space where the interpretation takes place and the affordances the space provides. The interpreter draws from the structure of the slide and by touching on the non-dominant hand's finger she reconstructs the list visible on the screen. The

message is further developed by the employment of English mouthing of spoken form used together with fingerspelling and FinSL sign.

#### 6.2.5 Discussion on examples of local chaining

The examples above highlight how a wide array of semiotic resources are in use of and used by the sign language interpreters. Different features produced both manually and orally as well as utilizing the environment and context where the interpretation takes place afford different meaning-making possibilities.

In the beginning of this chapter, the importance of mouthing in introducing English into the interpretation was emphasised. As can be seen from the examples above, mouthing does have a prominent role. The discussed examples, however, bring about them also other, not as direct ways, to include English into the interpretation. The interpreters, as well as the student, make use of their environment. The interpreters use the structure and layout of the slides in their work. They, for example, make use of the graphs and lists by introducing the same structure to the interpretation by using buoy constructions. These practices create point of contacts between the two visual inputs, i.e. the slides and the interpretation, and can that way improve student's access to English language input.

### 6.3 Functions of chaining

In the following sections I will discuss the functions that I have identified in the data and in light of the examples discussed above. It is good to remember, however, that the naming of the functions is not necessarily straightforward and some chaining sequences may serve several functions. In the analysis I have taken into consideration the discussions with interpreters and signed language researchers to whom I have presented my findings. In these discussions also the interpreters taking part in the study have been present. I will also draw on Gile's (2009) Effort model in identifying the functions.

#### 6.3.1 Maintaining the English discourse



The data for this study comes from English-medium lectures that were taking place in higher education in Finland. As already discussed in Chapter 5.2 where data collection is introduced, they were part of a same study module which was taught entirely in English. English was, therefore, a lingua franca on these lectures and the course can be seen to have the implicit goal to improve the students' English skills in communication (see Westerholm and Räsänen 2015 for discussion). This macrolevel functions that English Master's programmes and English-medium instruction have seem to have an effect on the microlevel practices of the interpreters. This fact can be seen to affect the choices the interpreters make in their work as they are maintaining the English discourse by introducing and utilising English in the interpretation to FinSL.

The wishes expressed by the deaf student of preferring having as much English input via the interpretation as possible also suggests that the chaining sequences including English are at least partly strategical on the behalf of the interpreters and their aim is to maintain the English discourse. The practices of the interpreters are also in concordance with the goal that business studies have: the goal of preparing students for careers in business by providing them with knowledge and skills for work life (Camiciottoli 2007: 107): one of which is the knowledge on the terminology used in the field. This can be seen, for example, in relation to Example 8 where concept that is relevant in the field is produced by first fingerspelling the English word, i.e. providing the student with the form of the word, and then by producing a FinSL sign that gives also the meaning of the concept. This way the equivalencies between the different languages are made visible. Similar functions have been identified by Humphries and MacDougall (2000) in school settings where ASL and English are used. The reoccurring chaining of reoccurring concepts, such as entrepreneurship (Ex. 4 and Ex. 5) or manage (Ex. 2), also maintains the English discourse and brings out the central topics of the lectures. As can be seen, the chaining practices and their function on the microlevel are linked to larger macrolevel functions as well.

### 6.3.2 Separating and specifying concepts

In cases such as 'leadership' (Ex. 1) and 'manage' (Ex. 2) chaining is used to separate concepts that are part of the same semantic field or the meaning of which needs to be specified. In these cases, the simultaneous use of manual and oral articulators is important and

especially the role of mouthing cannot be emphasized too much. Of course, context also affects the interpretation of the message, but when there is a chance for confusion, in this data, mouthing is used for separating and specifying.

In Example 3 ‘microeconomics’ the function of the mouthing is to specify the meaning of concepts that might be easily confused to others if the interpretation were based only on the used signs. For example, the sign TALOUS has many different possible equivalents, of which more than one would fit at least the immediate context, for example, economy, business, to do business and currency. By using the English word in the mouthing, the intended meaning is made clear. This is one of the functions of mouthing that Rainò (2010) has identified in FinSL. In the specific case of ‘microeconomics’ (Ex. 3), also the context can support the understanding of the intended meaning as the concept itself is visible on slide as well already in the heading.

In the previously mentioned examples of ‘leadership’ and ‘manage’ the context is not enough to separate these two. In the data ‘leadership’ and ‘manage’ with all its derivatives (most often in the form of ‘management’) are often produced together as in “aspects to management and leadership”. The FinSL signs that are used in relation to these concepts could without the mouthing mean either one. They are separated almost mainly by the mouthing, although there is also consistency as to what sign is used with which concept. The need to distinguish between the concepts also arises from the context: a lecture and a study module held in English. These concepts, as well as ‘microeconomics’, are part of the subject matter of the course, so it is important to convey them as accurately as possible.

### 6.3.3 Bringing forth the cognitive processes related to interpreting

The interpreting process can have an effect on how, when and why chaining is used. The examples of the chaining taking place when interpreting the concept ‘entrepreneurship’ (Ex. 4 and 5) show that even when there seems to be quite a consistent way of interpreting something it can suddenly change. With regards to sequence ‘entrepreneurship 14’ (Ex. 4) the immediate context of the source text can provide an explanation to why in that situation the interpreter uses only mouthing and LETTER-E with a movement to the right. In that case the lecturer explained that the concept entrepreneurship is of French origin. In the latter example,

Example 5, however, the reasons for interpreter's actions are not as clear. It is the 15th time the interpreter interprets the term during the lecture. Instead of just using the most common way in the data - fingerspelled sign LETTER-E with English mouthing of spoken form and the sign YRITYS with English mouthing of spoken form, she adds other resources into the sequence. She includes fingerspelling of the word and English mouthing of written form of the word. This is the first and the last time the word is fingerspelled in the data.

The actions and choices of the interpreter in Example 5 cannot be explained solely by the immediate context. The source text itself does not give a reason for it: In this case again the more abstract concept of entrepreneurship is discussed in relation to the risks that are involved with it. This is a very similar source text environment as in many of the other instances. Neither do the used slides or the student's reactions or feedback give explanation for the sudden use of a more complex chaining sequence.

A possible explanation could be that at this stage, approximately 50 minutes into the interpretation, either the time or the content can affect the interpreting process. As the interpreters in the situation work between two non-native languages, the cognitive load can be significant. This kind of strategy of a longer, and more complex, chaining sequence may be the interpreter's way to play for time allowing her to process the incoming source text or it can be a sign of a cognitive overload and weariness (Gile 2009). If this is the case, it would be interesting to examine the situation, for example, from the point of view of Gile's Effort Model discussed in Chapter 4.4.

However, the concept is reoccurring and this might mean that processing and interpreting it could have become more automatic meaning that the cognitive load would actually be lighter. Another explanation for this kind of practice can also be the interpreter's sudden need to make sure the concept is conveyed and the need to be more specific. Both explanations can bring out aspects of the interpreting process – the first one perhaps indicating something about the interpreter's possible uncertainty: whether she is understood or not (although this is not otherwise visible in this context). The second could indicate that the interpreter might need more time to process the source text and find the best strategies for interpreting the message. In this case the chaining sequence could in fact be linked to the previous occasion where the same concept was interpreted (see Example 4). On the other hand, in the discussions with other sign language interpreters it was also suggested that a possible reason for this kind of

solution would in fact be that the interpreter has too much time. The lecturer spoke quite slowly and the interpreter might have more time to provide different kind of solutions for the interpretation of the concept. Even if this chaining sequence was a sign of cognitive process, it still highlights the use of fluid language practices. If it is the case that the interpreter has too much time in her hands, the practice she employs is still interactional. While she is actively processing and searching for new resources for interpreting something, the interpreter displays her responsibility for maintaining the progress of the activity.

In the interpreting process, it is not, however, only about what is happening inside the interpreter's head. Especially when interpreters are working in a team, the process is somehow shared and the whole team, or in this case the pair, and sometimes even the client can take part in it. This is visible in the data in those cases where chaining is distributed. In total there were 16 sequences of distributed local chaining.

In Example 6 that discusses the concept retaliation the chaining process is distributed (Tapio 2013) between the two interpreters and the deaf student. This kind of sequence and especially the actions by the interpreter in the supportive shift are examples of the process where the supportive interpreter monitors and anticipates the output, gives support to the active interpreter as well as reinforces the conveyed message. In this case, it can be argued that also the situation provides further affordances to the student as the concept is available on the white screen as well. By glancing at the white screen the student makes use of this affordance, also participating in the chaining sequence. In other instances of distributed local chaining the functions included asking and providing support and negotiating meaning.

#### 6.3.4 Tying the different visual inputs together

Chaining is also used as a tool to tie the different visual inputs together. Often in lectures some kind of a slide show or other form of visual input, such as handouts, are in use.

The sequences where the interpreters utilised the visual structure of the slides display a practice that can be seen in monolingual signed language discourse as well. Because the interpreter(s) and the deaf student share knowledge of the other visual input present in the situation, the interpreter can draw on the structure on the slide. This practice can also reveal

something about the interpreting process, however. In the case of impact assessment (Ex. 7) at least the active interpreter seems to treat both the spoken text and the visual input as a source text. The fact that the structure is so closely copied into the interpretation that also additional information visible only on the slides is produced, speaks for this kind of hypothesis. Also the supportive interpreter treats the visual input relevant by pointing and moving the finger on the tablet. A similar thing is happening also in Example 8, where the interpreter uses list buoy construction and reconstructs the list visible on the white screen.

### 6.3.5 Discussion on functions

Mouthing does not only have a prominent role as a semiotic resource by which English is included in the interpretation and chaining sequence. It also has a role in the functions of chaining. In two of the functions presented above, maintaining English discourse and separating and specifying concepts, mouthing was the main semiotic resource that was used. English could be introduced into the interpretation directly also by using fingerspelling. In the data, however, fingerspelling of an English word was always accompanied by mouthing of the English word either in spoken or written form. The presence of English could be implied by referring to other visual input, for example, slides, but also in these sequences mouthing was included.

The role that the mouthing has on separating and specifying concepts is acknowledged also by Rainò (2010). In an educational context, where also interpretation has, or at least should have, some kind of an educational goal, this function is emphasized.

Chaining sequences bring out aspects of the interpretation process. Chaining can be used to lighten the cognitive load of interpreting (Gile 2009), or it can be a sign of overload. This is not the only possible explanation, however, as can be seen from the analysis above and, for example, also from the thoughts that the interpreters brought up in the discussions. Of especial interest from the point of view of chaining as a part of the interpreting process is when the chaining is distributed (Tapio 2013) between the participants. In these cases, the process is not individual but at least partly shared. In these sequences the supportive interpreter has the task of monitoring and anticipating the output of the active interpreter, to support the active interpreters and reinforce the message. These tasks are present in

interpretation throughout the interpretation process, but their relevance is emphasized in the distributed chaining sequences. The data reveals also that the deaf student can have a role in the chaining sequence by reacting, giving feedback either verbally or through embodied actions.

The analysis of functions also reveals the effect that the context and space where interpretation takes place has. They provide affordances and constraints for the semiotic resources available for the interpreter and furthermore also the functions that the chaining sequences have. If the interpreter has access to or prior knowledge of, for example, the slides that the lecturer is intending to use, the interpreter can chain the interpretation with the slides. However, if this other visual input is lacking, or if the interpreter does not have access at all or has only partial access to it, then chaining is much more difficult. In the data, the interpreters tie the different visual inputs together by chaining, to come up with a more cohesive text and to support the deaf student's process of following the interpretation. This can be seen, for example, in Ex. 8 and 7. In Example 8 the structure of the slide is brought into the interpretation and cohesion is built by means of list buoy construction. In Example 7, the student actively shifts gaze between the laptop and the interpreters taking in the mutually supporting message from both visual inputs.

## 7 Discussion

In the following Chapter 7.1 I will discuss the findings of the study. In Chapter 7.2 I will present an evaluation of my study as well as bring out suggestions for further research. The study will end in concluding remarks which include the implications of the study in Chapter 7.3.

### 7.1 Findings of the study

From the data two types of chaining were identified: simultaneous and local chaining (e.g. Bagga-Gupta 2004). Local chaining sequences always included simultaneous chaining within them, being the more complex of the two. In both types different semiotic resources were employed. In the analysis these were divided into those produced by the manual articulators

and those produced by the oral articulator. The former were FinSL sign, fingerspelled sign, or fingerspelling. The latter were mouthing of an English word either in its spoken or written form, Finnish mouthing, and in the case of local chaining sequences no mouthing at all or saying the word out loud.

In the data mouthing stood out as the main feature of introducing English in the interpretation. Mouthing was included in every one of the 163 chaining sequences, whereas fingerspelling, the only other linguistic feature that could introduce English explicitly into the interpretation was used only in 53 sequences (17 in simultaneous and 36 in local chaining sequences).

The data examples discussed above highlight the role of mouthing and show how varied the combinations of semiotic resources can be in an interpreted situation. The languaging practices employed by the interpreters were at least partly strategic. For example, in Example 6, where the finding of an equivalent sign for the concept retaliation would have taken too much time, both the supportive and the active interpreter drew on fingerspelling. Another example of the strategic use is Example 8, where the interpreter introduces both the form and the meaning of the discussed concept into the interpretation while at the same time tying also structure of the slide into the interpretation. All the chaining sequences, whether strategic or not, show the fluidity characteristic of interaction from a languaging point of view. In this context, the interpreters draw freely from their repertoires (García and Wei 2014) in order to accomplish the task of interpreting as a meaning-making process.

Four functions of chaining were identified: maintaining English discourse, separating and specifying concepts, bringing forth the cognitive processes related to interpreting, and tying the visual inputs together. Mouthing was the main component in the first two functions and this is in line with previous studies on mouthing in FinSL (Rainò 2010). In previous research it has been found that especially local chaining can have the function to emphasize, highlight, objectify and call attention to equivalencies between languages (Humphries and MacDougall 2000: 90). I argue that chaining also has the functions to distinguish between concepts and to convey subject matter concepts in the source language. One way how interpreters achieve these goals is by switching between free and literal translations which may lead to chaining sequences. Especially in the case of local chaining that is distributed between the interpreters, chaining sequences have the function to ask for and provide support. It is also a tool for tying together the different visual affordances available in the interpreting situation.

Some of the chaining sequences can be explained by the cognitive processes that interpreting includes. Interpreting is to begin with a strenuous task and the interpreters in the data are working between two non-native languages. The cognitive load they are facing can therefore be significant. Chaining can then be used strategically to lighten the cognitive load, for example, as a means for playing for time. Chaining can, however, at times also be a manifestation of a cognitive overload and fatigue. It is wise to keep in mind though that it could also be a sign of interpreter's other mental processes as well.

Distributed chaining sequences (Tapio 2013) included other functions as well, but they were especially interesting from the point of view of the interpreting process. In distributed chaining sequences, the interpreting process was at least in parts shared by the interpreters, as can be seen in Examples 6 and 7. In these sequences the interpreters were asking and providing support. As the active interpreter was producing the interpretation, the support interpreters had the task of monitoring and anticipating output, supporting the active interpreter and reinforcing the message.

## 7.2 Limitations of the study

This study provides a detailed, micro-level description of what is happening in an actual educational interpreting situation. It has focused on only one aspect: the chaining sequences that include English – their form and function. It continues on the work started in Alapuranen (2016) and shows that chaining is used by the interpreters and that it is at least partly a strategically used languaging practice.

The first research question “what semiotic resources are used in chaining sequences” revealed the important role of mouthing. This might be, however, dependent on the context in which the interpretation takes place. In an English-medium educational setting, where the student also has asked the interpreters to include English in the interpretation, English mouthing is likely to appear quite a lot. The context-dependency, however, raises the question what the situation would be like in interpreting from Finnish into FinSL. In this context, mouthing might not necessarily be as prominent resource, as Finnish mouthing takes place in the discourse also when chaining is not taking place. Or is the use of mouthing in general a form



of chaining which could imply that mouthing is not part of sign languages? Here, the question of the role and status of mouthing arises, a discussion that is already ongoing in the field of signed language research (e.g. Boyes Braem and Sutton-Spence 2001).

Widening the scope of contexts in which interpreting is taking place could also reveal other semiotic resources than those found in this study. Comparing situations with different source languages and possibly even settings outside the educational sphere, where the interaction might have different kind of goals, could highlight and bring out different semiotic resources that can be used in chaining.

Also in this study there were three interpreters and one deaf student taking part and the findings here present their ways of doing chaining. These could, however, vary between interpreters and clients. The factors that would be interesting to look into are, for example, include the role of the interpreter's experience in working in the field as a possible factor influencing how chaining is conducted. Another interesting question is what chaining might be like for a client whose written or other language skills are not advanced.

In this study the second research question "what functions chaining sequences have" was approached based on the immediate context of chaining sequences. This way some functions were revealed. More functions could be revealed by looking into the broader contexts, such as discourse context and pragmatic context. For example, in which phases of the lecture chaining takes place and how does this context impact its function? This would also mean that those phases where chaining is not used should be analysed.

During this study valuable lessons were learned on the data collection, processing and analysis. These lessons can be taken into account when doing further research. They are also in parts applicable also to other topics that have to do with signed language interpreting, signed interaction or multimodal interaction.

The study set to find out how and why chaining takes place and it has been able to answer the research questions. Furthermore, this study can be seen to have value on the field of signed language interpreting by providing detailed multimodal analysis of interpreted situation and also by employing the concepts of languaging and chaining.

### 7.3 Implications and conclusion

The findings of this study open the door for further discussion on what is happening in an interpreted situation in the field of signed language interpreting, especially in the Finnish setting. Even MA theses on signed language interpreting are still rare. And as Napier (2011: 370) puts it, even internationally, signed language interpreting research is still an emerging discipline. Also the study contributes to the sub-field that concentrates on signed language interpreting between two non-native languages by giving a micro-level analysis of one setting.

Approaching the interpreted situation and interpreting from a languaging and chaining perspectives allows me to take into account the whole repertoire that the interpreters have in their use, without being forced to judge something as interference or as an error when in fact it is a valuable resource and practice that makes the interaction successful, fluent and flowing. This kind of a view requires multimodal analysis, otherwise much would go unnoticed. Even though working from English into FinSL is not the everyday work for all signed language interpreters in Finland, the findings of this study can be used in the field. This study has the potential to provide insight on the different aspects of an interpreted situation.

For example, in signed language interpretation when the interpretation is from spoken language to signed language, the interpreter needs to be visible for the deaf client due to the modality of the language. In the best scenario, at the same time also other visual input is simultaneously accessible for the deaf client. This means that a variety of affordances is available for the interpretation and for the deaf client as well, although often not necessarily for the speaker. From the interpreter's point of view, he or she can draw on the space around him or her, for example, by making use of the visual aids. If there are two interpreters, as in the case of this study, they can support each other and provide information that the other would not be able to see or hear otherwise. They can also end up producing two target texts that complement each other as in the case of 'retaliation' presented above. This differs from the interpretation of spoken languages where, in its most stereotypical form, the interpreter is just a voice heard through a set of headphones and most of the affordances for multimodality are stripped from the action of the interpreters.

The research on interpretation, both in spoken and signed languages, has been from the

traditional viewpoint of language where source and target text are seen as either equivalent or not. I believe that by employing the framework of languaging, we can get a fuller and more in depth picture of the event. By looking at an interpreted situation or, as in this case, the interpretation itself as a multimodal event and context, we will get detailed description on how the different semiotic resources are used and intertwined with each other in a certain context. Interpreters in their day to day work make decisions and choices all the time, there is no doubt of that. However, the question is how these decisions are visible in the interpretation and why, and therefore additional research is called for.

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