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Mitigating the Cognitive Load of South African Sign Language Interpreters on National Television

Declaration:

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I declare that

MITIGATING THE COGNITIVE LOAD OF SOUTH AFRICAN SIGN LANGUAGE
INTERPRETERS ON TELEVISION

is my own work, and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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Abstract

Simultaneous interpreting is inherently difficult (Gile 2009): listening to the source language and producing a target language message at the same time is a strenuous cognitive process. The cognitive load experienced by simultaneous interpreters in media settings is therefore arguably much higher than that of interpreters in conference settings (Kurz 2003). Interpreters assigned to live newscasts are exposed to a number of internal and external strains such as text complexity, rapidly changing sequences of topics and world events, and have limited time to adapt to individual speakers' styles and a variety of accents (Kurz 2003). As the source text is read from an autocue, it is delivered at a fast, unnatural pace, which means that the simultaneous signed language television interpreter is not only faced with the threat of possible technical faults that might occur, but also the psycho-emotional strain of interpreting in front of thousands of viewers without any immediate audience response and cues. When demand outweighs the cognitive control capacity interpreters have, they may reach saturation levels (Gile 2009), and cognitive overload may occur. Cognitive overload is a major source of occupational stress (Dean and Pollard 2001) and may often cause the target audience to experience a transliterated, one-dimensional and/or superficial source text level interpretation that does not meet their expectations (Riccardi 2005). How can expert simultaneous interpreters better manage their cognitive resources while exposed to internal and external interferences? This study reports on the specific strategies used by professional South African Sign Language interpreters on national television to mitigate their cognitive load, deliver a target discourse that meets expectancy norms and thereby enhance the quality of language transfer on national television. A grounded theory approach allows for the documenting of initial norms, production and expectancy norms, as data is analysed against theoretical knowledge of simultaneous interpreting from a cognitive perspective. The study emphasises the need for South African Sign Language television interpreters to receive formal training in preparation strategies. Testing the success of a preparation model/tool and training curriculum falls outside the scope of this study, but the study opens the door to further investigation and review.

Key terms: signed language interpreting; South African Sign Language; media interpreting; mitigating cognitive load in simultaneous interpreting; preparation strategies for media interpreting; sociocultural translation adaptation; pragmatic translation adaptation; norms in simultaneous interpreting

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Transcription conventions

Transcriptions of target language discourse were carried out in ELAN, a linguistic annotation software programme, and were based on the basic glossing system proposed by Sutton-Spence and Woll (1998: xi – xxi).

The methodology of this research focused only on discourse analysis and no linguistic annotations that include facial expressions, verb agreement, classifiers, handshapes, orientation and location were made. The transcription conventions used in the study are:

- One sign for an English word is written in capital letters
- When the sign could not be glossed by a single English word because there is no exact English translation, each English word is joined by a hyphen to show the reference to one sign
- Where necessary, indexing was indicated by (IX)
- Finger spelled words are written in capital letters with a hyphen between each word.

Chapter 1: Introduction

“Simultaneous interpreting is a demanding and complex task that makes use of the working memory to its extreme.” (Osaka 2002 cited in Mizuno 2005: 741)

1.1 Introduction

It is inherently difficult to listen to the source language and produce a target language message at the same time (Gile 2009). Christoffels and De Groot (2005) consider this an unnatural and cognitively taxing task, given that the simultaneous interpreter not only has to comprehend and produce a culturally-acceptable, source language-faithful, target language discourse; but also has to continuously self-monitor while making decisions under cognitive constraints.

According to Kurz (2003), the cognitive load experienced by simultaneous interpreters in the media is arguably much higher than that experienced by simultaneous interpreters in conference settings. Since the inception of a democratic South Africa in 1994, signed language interpreters have been assigned to interpret live newscasts, however it has been noted that interpreters often do not meet the Deaf community's expectations (Wehrmeyer 2013: 19). A possible explanation for this phenomenon is the gap between production and expectancy norms in South Africa, and although some research has attempted to ascertain what Deaf audience expectations are, there is still need for research from the language practitioner's point of view. South African Sign Language interpreters on television are exposed to a number of internal and external strains. External strains include visual and auditory distractions, whereas having no direct view of the speaker or presenter is considered to be one of the internal strains (Kurz 2003). The interpreter has little opportunity to adapt to a specific style of speaking or accent, which is another internal strain. Ambiguity and inference become problematic as the simultaneous interpreter has to cope with the ever changing subject matter and world events on which the news reports. The source text is read from an autocue, delivered at a fast, unnatural pace, while the interpreter deals with not only the threat of technical faults such as sound and microphone equipment failure that may occur at any time but also the strain of psycho-emotional interference of interpreting in front of thousands of viewers. In addition the interpreter has no direct view of the audience to see their facial expressions or responses to guide the decision making process of language transfer, which adds to their strain. The simultaneous interpreter on television may reach levels close to saturation when internal and external demands outweigh his/her cognitive control capacity. This may lead to cognitive overload (Gile 1995), which in turn may result in a transliterated, one

dimensional target discourse that fails to meet audience expectations (Riccardi 2005). The next section discusses the research questions and outlines the research objectives.

1.2 Aims and rationale

The aim of this research study is to document and record preparation strategies which interpreters apply to live news bulletins to mitigate their cognitive load. By implementing a grounded theory approach, data will be analysed and a preparation model/tool proposed that may mitigate the cognitive load of South African Sign Language interpreters. This model could increase cognitive control in a high demand setting and improve the overall quality of television interpreting in South Africa. The study addresses a gap in the research and emphasises the need for preparation strategies to be formally taught in simultaneous signed language interpreter training. The study does not test the successful implementation of a preparation model/tool, however, but opens the door to further investigation and review.

1.3 Research questions and objectives

According to Riccardi (2005: 754), simultaneous interpreters tend to produce a word for word translation of the source text when fatigue sets in. She stresses that trainers ought to teach the significance of full comprehension of the source discourse message; in a sense be able to detach from the words to accurately interpret. When cognitive load increases due to internal and external demands (Kurz 1997) in highly complex and fast-paced settings which outweigh cognitive control, cognitive overload may occur (Kurz 1997, Gile 1995, Riccardi 2005).

In this dissertation, interpreting on television will therefore be defined and referred to as a *high demand* setting, where interpreters experience *low control* (Dean and Pollard's 2001). Secondary research questions and their objectives arising from the background context discussed in section 1.2 are tabled below.

Research questions	Objective
How do SASL interpreters prepare prior to a high demand, low control setting, such as interpreting	To observe and record various preparation strategies of expert South African Sign Language

on camera for a live TV broadcast?	interpreters.
What are the standard preparation methods that assist South African Sign Language interpreters to better control cognitive demand during interpreting?	To determine the norms of preparation observed amongst South African Sign language interpreters working on television.
How does preparation assist the interpreter to better implement conscious, meaning-based strategies as opposed to unconscious form-based strategies suggested by Gile (1995) and Kohn and Kalina (1996), and produce a target discourse that meets the expectation of the target audience as observed by Lawrence (1995)?	To observe and record signed language expansion features (Lawrence 1995) in the production of a target discourse that meet the audience expectations.
What is the lag time difference between unprepared and prepared target discourse?	To observe the time lag difference between prepared and unprepared target discourse of each participant
How can the effects of cognitive load be mitigated?	To observe and record the techniques that expert South African Sign language interpreters implement to mitigate their cognitive load.

Table 1: Research questions outline

The next section discusses the context of the research problem in detail.

1.4 Context of the research problem

The difficulty of television interpreting does not only lie in the linguistic complexity of the source discourse, but also in the low levels of cognitive control that the interpreter may exercise during the interpreting performance. Karasek and Theorell's (1979) occupational stress theory assists greatly in understanding how the occupational strain involved in performing a task (termed 'demand'), which an employee experiences as stress, are affected not only by the difficulty in performing the task, but also by the level of control that the employee is able to exercise over the performance of the task. Dean and Pollard (2001) applied Karasek and Theorell's (1979) occupational stress theory to simultaneous signed language interpreting, in order to explain the cognitive load interpreters experience when demand outweighs their mental capacity and overall control. Drawing on Dean and Pollard's (2001)

schema, this study categorises television interpreting as a high demand, low control interpreting setting, and it can thus be assumed that this medium presents certain strains that decrease the simultaneous interpreter's cognitive control and negatively affects his/her output. Therefore if the interpreter increases the cognitive control the quality of the target language message may improve. Kohn and Kalina (1996: 129), recommend several ways for a simultaneous interpreter to do to this, one of which is to draw on his/her presupposed/ world- knowledge to better anticipate incoming information. In order to draw on presupposed world knowledge, it is important for the simultaneous interpreter to prepare and analyse the source discourse.

According to Dean and Pollard (2001) the situation or context has a direct impact on occupational stress. When applying this schema to a South African context, the socio-political and cultural context of the Deaf community has to be taken into consideration. In South Africa, the broader political and socio-economic circumstances have had a negative impact on the status of South African Sign Language interpreting, and continue to influence the context of this emerging profession. Great strides have been made, but many challenges are yet to be overcome. South African Sign Language is protected by the Constitution (Bill of Rights of 1996, Chapter 2 section 30 and 31 (A and B)), but activists continue to lobby for South African Sign Language to be declared as the 12th official language of the country. Lobbying groups continue to promote the status of South African Sign Language as a language in its own right, which is not based on a spoken language (Penn and Reagan 1994; Wallmach 1998; Akach and Aarons 1998; Morgan 1999). The 'fake' sign language interpreter debacle at former President Nelson Mandela's memorial service drew the public's attention to the South African Sign Language interpreting profession, and was fervently debated amongst the general public, highlighting the institutional factors of multilingualism in South Africa and the danger of tokenism (Wallmach 2014:156). This incident was followed by a statement made on 13 December 2013 by the then Arts and Culture Minister, Paul Mashatile, who undertook to ensure that the profession of language practitioners be speedily regulated. As a result, the *Use of South African Official Languages Act* (Act 12 of 2012) was passed, which made provision for the formation of a *South African Language Practitioner's Council*, mandated to regulate the quality and accreditation process of interpreters, translators and language editors. The implementation of the Council has since been put on hold due to financial constraints, but the *South African Translator's Institute* (SATI), released a statement on 2 March 2016 that indicated it will continue handling the accreditation process for simultaneous interpreters and sworn translators (SATI members' correspondence: 2 March 2016).

These socio-political challenges add to the occupational strain of the signed language interpreter and can be summarised as follows:

- lack of clarity around the standardisation of South African Sign Language
- lack of recognition of the language as an official language
- problems and misconceptions around procedures for training
- contention around accreditation and regulation of the South African Sign Language interpreting profession

Signed language interpreters in general are exposed to psychological strain caused by facilitating communication to a marginalised community that still experiences political segregation, bi-cultural identity crises and a historically substandard education system that continues to fail them. According to DeafSA (1999), the average literacy level of the Deaf community is Grade 4. Information to the hearing world remains limited, and can only be accessed once explicitly facilitated. What hearing members of society take as common knowledge (hearing something on the radio, overhearing corridor talk, etc.) and make implicit reference to in conversation, has to be made explicit when the signed language interpreter facilitates the communication process between these two worlds (Kotze, personal communication, 2015; DeafSA 1999). The lack of development and resources available to the South African Sign Language interpreting profession often results in an interpreter working alone, untrained, unprepared and exposed to all the above-mentioned factors, exponentially increasing occupational strain.

The process of language transfer between a spoken language and signed language seems fraught with difficulties, yet expert interpreters still manage their cognitive load and deliver a quality target discourse accessible to the target audience. This dissertation documents the specific strategies that expert simultaneous South African Sign Language interpreters on national television implement to mitigate their cognitive load, to deliver a target discourse that meets expectancy norms and thereby enhance the quality of language transfer on national television.

The next section outlines the literature reviewed based on simultaneous interpreting as a cognitive process.

1.5 Literature Review

In the following section, relevant literature around the concept of simultaneous interpreting from a cognitive perspective will be discussed. The literature review section will outline principles of cognition in simultaneous interpreting that comprise perception, comprehension and information processing and language production. The section will also discuss simultaneous interpreting as a norm

driven task and conclude by discussing cognitive load and recommendations to mitigate cognitive strain.

1.5.1 Simultaneous interpreting: a cognitive perspective

Key researchers have ascertained that the cognitive process of simultaneous interpreting comprises factors such as comprehension, conceptual representation, production and re-expression (cf. also Kirchhoff 1979, Seleskovitch 1984, Gile 1995 et. 2009, Riccardi 2005). Scholars describe simultaneous interpreting as an unnatural exercise that seems impossible to achieve (Seleskovitch (1975), Gile (1995), Kurz (1997) and Christoffels and De Groot (2005)). They investigate conceptualisation strategies and describe reformulation as one of the most important cognitive skills to be harnessed and developed during simultaneous interpreting training. Successful reformulation is dependent on the ability to deverbilise; i.e. to detach from the heard source text words to produce a conceptually accurate representation of the intended message. Seleskovitch and Lederer's (1976) *théorie du sens* (theory of meaning), is based on four pillars that form the foundation of deverbilisation; namely, (i) command of the native language, (ii) command of the source language, (iii) command of relevant world and background knowledge and (iv) command of interpreting methodology (as cited in Jungwha 2003: 1). Gerver (1975: 119) explores how information is processed in the brain and hypothesises that concentration assists the interpreter to perceive, store, retrieve, transform and transmit verbal information.

Kohn and Kalina (1996) describe the different cognitive processes of each producer of the source discourse: the formulator of the target discourse and receiver of the message. The sender, a subject matter expert of the source discourse, produces the information based on his/her own intentions, world-knowledge and assumptions. The simultaneous interpreter reformulates the target discourse based on his/her own intentions, often not as a subject matter expert, and is not permitted to filter out irrelevant or uninteresting information. Simultaneous interpreting is categorised as a language transfer process that takes place in a constrained environment within a limited time period. The receiver of the target discourse receives the information based on his/her own intention, world knowledge, subject matter knowledge and own assumptions. Kohn and Kalina (1996) explain that cognitive load may be mitigated by the interpreter's ability to anticipate; i.e. to predict discourse to be presented in the source discourse. Anticipation is dependent on the ability to comprehend and draw from relevant world knowledge, which allows the interpreter to successfully reformulate the source language into an accessible target language message (Kohn & Kalina 1996, Setton 1999, Riccardi 2005, et. al.). Kohn and Kalina (1996) document general norms as strategies implemented by the interpreter implements

to be able to reformulate the source language. These include generalisation, omission, anticipation, cultural equivalence and cultural adaptation. It is assumed that expert interpreters better manage their cognitive load than novice or untrained interpreters. Napier (2005) explains that expert simultaneous signed language interpreters can be viewed as those who show a high level of complexity of language skill, have a vast amount of general world knowledge, knowledge of discourse structure, problem solving and visual representation, all of which are cognitive functions. According to Setton (1999: 3), interpreting is context dependent and as such, cognitive models of simultaneous interpreting should not neglect the variables that context brings to the process of language transfer. Chapter Two discusses the application of cognitive models in simultaneous interpreting in further detail.

1.5.2 Simultaneous Interpreting - a norm driven task

The interpreter adopts different strategies based on target audience expectations, rules and conventions the interpreter adopts different strategies that may in time become norms (Schjöldager 1995). Norms are developed from shared knowledge, cultural realities and community perceptions relevant to the process of language transfer (Hermans 2013: 2). Toury (1995: 56) first discussed the act of translation as a norm-governed activity, and coined the terms *preliminary*, *initial* and *operational norms*. Policies that regulate the actual nature of the translation, and the regulations of what is permitted in the translation itself, are termed *preliminary norms* (Toury 1995: 58). *Initial norms* refer to the overall strategies involved in translation, and *operational norms* are observed decisions made during the process of translating (Toury 1995: 58). Chesterman (1997: 175 as cited in Hermans 2013: 3) takes the interaction between fellow language practitioners and audiences into account and includes *product* or *expectancy norms*, which are norms that reflect what the translation should look like based on audience expectations. Such expectancy norms in the Deaf community are discussed by Stone (2009), and are referred to as *Deaf translation norms*. Lawrence (1995) refers to these expectations in discourse as *signed language expansion features*, which include seven discourse norms observed from discourse produced by native signers, namely;

- contrasting
- faceting
- reiteration
- utilisation of 3D space
- explaining by examples
- couching or scaffolding
- describe then do

These features as observed in South African Sign Language are described in more detail in Chapter Three of this study.

1.5.3 Simultaneous interpreting and cognitive load

Jones (1998: 42) defines interpreting as a “seamless, least noticed, seemingly effortless” process which needs to be effectively controlled and balanced. The interpreter has to divide his/her cognitive energy to successfully understand the linguistic units of meaning, apply the necessary world knowledge whilst drawing from general knowledge, and display cultural intelligence (Gile 1995, Kohn & Kalina 1996, Seeber 2011). According to Gile (1995, 2009), simultaneous interpreting is difficult because the interpreter has to divide his/her attention between listening and producing, within a specific time limit, without access to the entire text, continuously responding in stressful situations and within a limited concentration span, often working at levels close to saturation. The more complex the language and subject matter, the greater the overall effort and cognitive load required of the interpreter (Gile 1995: 9). Gile (1995: 169) proposes therefore that the act of simultaneous interpreting involves a set of efforts: listening, memory, production and coordination.

Accordingly to Gile (1995: 9), the simultaneous interpreter works at levels close to saturation and states that the more complex the language and subject matter, the greater the overall effort and cognitive load required of the interpreter. “Interpretation requires some sort of mental ‘energy’ that is only available in limited supply”; interpretation “takes up almost all of this mental energy, and sometimes requires more than [what] is available, at which times performance deteriorates” (Gile, 1995: 161). According to Gile (1995), simultaneous interpreters become vulnerable in conditions where demands of processing capacity are high. He elaborates by referring to specific problem triggers in specific contexts (Gile 1995: 172, 2009) as follows:

- text complexity – text preparedness, text speed, text technicality and speaker characteristics
- Lack of familiarity with the material
- Non contextualised information, e.g. names and numbers
- Linguistic or syntactic dissimilarities between source language and target language external factors

These factors are borne out by the findings of other researchers. Dean and Pollard (2001: 1) list sources of demands as linguistic, environmental, interpersonal and intrapersonal, which according to Kurz (2003: 51) require maximum attention and concentration. Seeber (2011: 184) also illustrates that cognitive load increases when working in specific asymmetrical language pairs, such as languages that follow a subject-object-verb syntax, to a subject-verb-object syntax and vice versa. Seeber (2011) uses German and English as examples of asymmetrical language pairs, which is equally applicable to the translation of English and South African Sign Language. The following example of a written

television news headline to be read aloud from the autocue illustrates the difficulties experienced during language transfer:

Source Text:

“Gauteng police have made a breakthrough. Police have arrested suspects involved in the mugging of an SABC crew earlier this week.” (SABC News, 13 March 2015; 19:00. Duration: 0’07”)

SASL Gloss:

AGO TUESDAY HOSPITAL OUTSIDE SABC GROUP CAMERA MAN CRIMINALS 2 THEY MUG. UNTIL-NOW AT-LAST POLICE ARREST FINISHED (SABC News, 13 March 2015; 19:00. Duration: 0’12”)

Back translation

Last Tuesday, a camera crew was reporting outside a hospital building when they were mugged by two thieves. The police searched for these two; today at last these two were apprehended and arrested.

As can be seen from the example above, the South African Sign Language interpreter implements a series of strategies in addition to the normative strategies of spoken language interpreters. This is to ensure that the interpretation is accessible to the broader South African Deaf community, based on lexical clarity to a culturally diverse audience. The challenge of timing has to be taken into account, as the reproduced interpretation takes almost twice the time of the spoken English source text because of the inclusion of added information.

1.5.4 Mitigating cognitive load in simultaneous interpreting

There are several ways in which cognitive load in simultaneous interpreting can be mitigated. In interpreter training, this often involves the scaffolding of skills where students are taught the more controlled or less complex tasks first and thereafter increase the complexity and the simultaneity of the tasks in a progressive manner (Napier 2004). Winston and Monikowski’ (2000: 76) believe that *translation* is the foundation of interpreting, and *mapping* or *modelling* is the best way to train an

interpreter how to organise his or her thoughts thereby mitigating cognitive load. University of the Witwatersrand follows a similar model. South African Sign Language interpreter students begin with translation followed by teaching consecutive interpreting. While this is common internationally, other South African institutions typically teach simultaneously interpreter only to students with sign language in their language combination. Introducing students to the consecutive mode of interpreting before allowing them to attempt the simultaneous mode is now standard practice at training institutions for signed language interpreters overseas (Davis 2002), but is not yet common in South Africa (Wallmach 2017, personal communication). A second means to mitigate cognitive load is “preparation” as proposed by Jones (1998), Riccardi (2005), Napier (2006) and Patrie (2005), that facilitates the process of reformulation, thereby reducing memorising effort, comprehension, decision making and eliminates redundant information. A third means to mitigate cognitive load is through text analysis. Winston & Monikowski (2000: 15) and Nicodemus, Swabey and Taylor (2014:3) suggest that signed language interpreters use *discourse mapping as a text analysis tool* to translate the message with “accurate content, appropriate context and linguistic form” Nicodemus, Swabey and Taylor (2014:3) concur that mapping, a visual form of *note-taking*, is a suitable training method to assist the signed language interpreter to order and stock ideas; however the efficacy of mapping has not yet been thoroughly investigated.

Napier (2004) also supports the scaffolding of skills in the training of signed language interpreters. In her view, students have to be taught to *interpret in the consecutive mode* as well as note-taking and discourse analysis in order to develop their conceptualisation skills before introducing interpreting in the simultaneous mode.

1.6 Methodology

“Developing a grounded theory model involves systematically analysing a phenomenon in order to explain how the process occurs inductively” (Strauss & Corbin, 1990: 12).

The goal of this research approach was to develop a theory that emerged from the data analysis. As a practising accredited simultaneous South African Sign Language conference interpreter, I chose a qualitative grounded research design as an approach to collect and analyse the data (Strauss & Corbin 1990). I constantly compared, recorded and described the preparation strategies applied by South African Sign Language interpreters assigned to television. Data was collected and an analysis was conducted in a cyclical five- phase process, as follows (this process is further explained in the next section and in detail in Chapter 4):

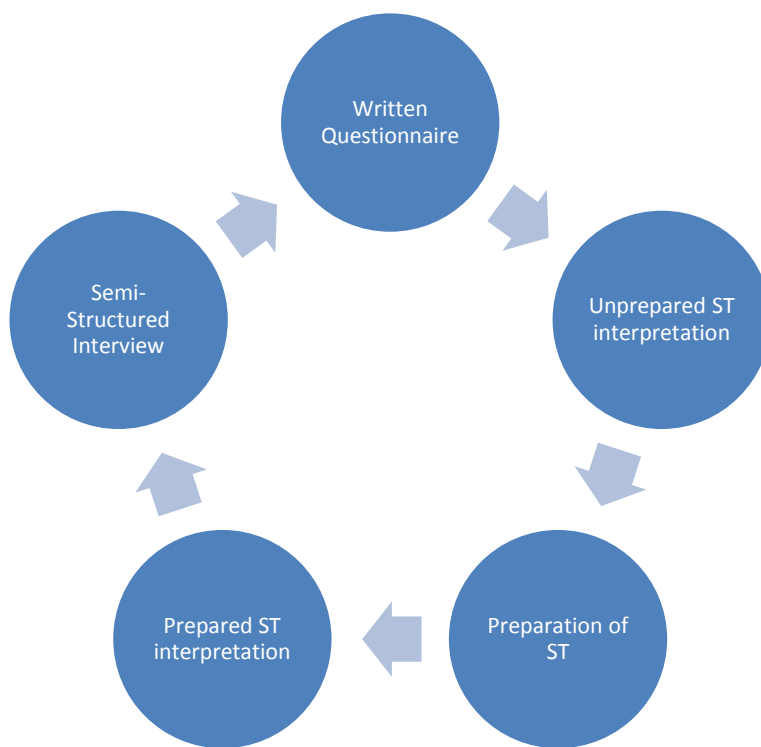


Figure 1: Cyclical five-phase data collection process

Data was collected as follows:

- Answered questionnaires received from each participant
- Recorded footage of unprepared interpretations of the selected source text
- Documentation indicating the preparation process that each participant has mapped prior to the second interpretation
- Recorded footage of prepared interpretations of the same selected source text
- Voice recordings of semi-structured interviews conducted with each participant after the second recorded interpretation.

In Phase One, a written questionnaire was sent out electronically to each respondent who consented to participate in the study and returned his/her signed consent form. Each respondent was requested to answer the electronic questionnaire prior to the second phase of data collection. Once the data was captured, I ascertained the core information needed to compare and analyse data based on the existing theoretical knowledge reviewed.

The second phase involved the recording of two interpretations that participants consented to. The first interpretation was unprepared and the second was a prepared interpretation of the same source

text. As discussed in section 1.5, it is assumed that preparation prior to an interpreting assignment allows the interpreter to better understand and anticipate. This is based on Wadensjö's (2008: 184 c.f. Chapter 2.8) observation that preparation increases the simultaneous interpreter's ability to anticipate information. The second phase of data collection was conducted in an assimilated environment that emulated, as authentically as possible, the environment and ambiance the South African Sign Language interpreter is used to during live television broadcasts. Each participant was asked to interpret "live" on camera. The first recording of the second phase of data collection provided the necessary data for further investigative comparative analyses to document the number of expansion features implemented (Lawrence 1995) and also to record shifts in adaptation approaches between unprepared and prepared renditions of the target language message. Before the second recording of the prepared interpretation of the same source text, participants were given an hour/60 minutes to prepare for the second recording. Each participant received a printed copy of the source text and was requested to map his/her preparation on separate paper provided.

In the third phase, these mapped preparations served as raw data for further comparative analysis, based on discourse mapping (Winston and Monikowski 2005) and recommendations from scholars such as, Napier (2005), and Patrie 2004 et. 2005. Dean & Pollard's (2001) low control, high demand schema served as assumed premise for television interpreting as a cognitively strenuous setting and provided a platform for analysis from a cognitive perspective (Gile 1995, Kohn & Kalina 1996, , Seeber 2011) drawing from Lawrence's (1995) expansion features of signed language and Volkova and Zubenina's (2015) adaptation model.

In the fourth phase, participants received an hour to prepare and were again requested to deliver an interpretation of the same source text on camera. The second recording served as reference to conduct the comparative analysis.

The fifth phase involved a semi-structured verbal interview that allowed for active reflection on the cognitive processes that took place during both the unprepared and prepared interpretations.

Continuous comparative analysis allowed for the documenting of comprehensive recommendations to mitigate the cognitive load of South African Sign Language interpreters on television.

1.7 Participants

The theoretical sampling of simultaneous South African Sign Language interpreters who work on television is based on the grounded theory approach, and is therefore based mainly on observation. Age, race, language directionality, expert or novice status, accreditation or non-accreditation status are not taken into account. Given the low numbers of expert interpreters in South Africa, and even lower numbers of interpreters working on television, the sample size for this study is necessarily small. While this is acceptable when following a grounded theory approach, it would not have been desirable for a quantitative study.

1.8 Ethical considerations

“Researchers in South African Sign language (and South African Sign Language interpreting) are faced with a challenge which is unavoidable in the context of a visual-gestural language: participants are always identifiable because non-manual features and facial expressions form an important part of the linguistic structure of the language.”(Janse van Vuuren, personal correspondence: 2016) All participants in the study are provided with comprehensive information describing the purpose of the study. The participant information letter states that respondents will not receive any remuneration for participating in the study. In order to ensure that the research is conducted as ethically and impartially as possible, a letter of consent to potential participants also stipulates the following:

- All recordings will only be used for research purposes of the study
- The research is not a form of assessment or prescriptive in nature

Questionnaires elicit each participant’s experience of the first and second recordings.

1.9 Organisation of the study

Chapter 1: Introduction

This section introduces the research question, aim and rationale and provides an outline of the relevant literature to be discussed.

Chapter 2: Cognition in simultaneous interpreting and television as context

This chapter reviews literature around simultaneous interpreting in general as a cognitive process involving perception, comprehension, memory capacity, world knowledge and context. Later sections also reviews research focussing on television interpreting as a norm governed activity, in a high demand, low control setting, based on specific cognitive strains that may lead to cognitive bottlenecks, and concludes what scholars consider as means of mitigating cognitive load specifically for television interpreting in general.

Chapter 3: Simultaneous signed language interpreting on television

This section discusses relevant literature that provides deeper insight into signed language interpreting on television. The profession of signed language interpreters on television has developed a unique set of conventions and norms, largely influenced by institutional expectations that guide the process of language transfer.

Chapter 4: Methodology

The methodology section outlines the grounded theory qualitative research method and sampling approach (Strauss & Corbin, 1990). Six South African Sign Language interpreters on national television provide data for analysis purposes.

Chapter 5: Data Analysis and findings

Results of the comparative data analysis obtained in a cyclical process are discussed to provide insight into the preparation process and propose a possible model for preparation. This may assist the South African Sign Language interpreter in mitigating the cognitive load in high demand low control settings.

Chapter 6: Conclusion

This section provides a summary of the research findings and concludes with a proposed solution to be verified and tested in future research. This section will also outline the limitations of the study and highlight potential avenues for further investigation.

Chapter 2 – Cognition in simultaneous interpreting and television as context

“Simultaneous interpreting is an activity of bilingual speech processing under very specific conditions” (Ahrens 2011: 105).

2.1 Introduction

As mentioned previously, simultaneous interpreting is one of the most strenuous and cognitively taxing of tasks, pushing the human brain to its extreme (Ageenkov and Candaele 2012: 8). It is also considered a problem-solving activity and is governed by certain norms (Schjöldager 1995: 67). This chapter will review literature around simultaneous interpreting in general as a cognitive process involving perception, comprehension, memory capacity, world knowledge and context. Thereafter the importance of norms in simultaneous interpreting will be discussed, followed by the concept of cognitive strain and ways to mitigate cognitive load. The last section contextualises cognitive processes in television interpreting from a spoken language perspective. This chapter theoretically underpins Chapter Three and provides the premise for further discussions relating to signed language interpreting on television as a high demand, low control activity (c.f. Dean and Pollard 2001).

2.2 Perception as a cognitive factor in simultaneous interpreting

In 1948 the father of neurolinguistics, Alfred Korzibsky, noted that no interpretation of a concept expressed in a verbal or sign system is the same, not only because languages are different in structure but because the socio-cultural and environmental influences result in vast differences in perception, unique to each human being (Korzibsky 1951: 11). Humans internalise and respond to external stimuli based on their individual set of beliefs and value systems which, over time, become norms that govern their *perception*, reality and response. Individuals have the inherent ability to perceive, decode and encode to draw unique conclusions; such decoding or abstraction refers to the ability to make sense of the world around us (Korzibsky 1951:1). Abstraction happens as the nervous system analyses and evaluates the continuous flow of external stimuli (sounds and images) that inundate the brain. Individuals devise specific strategies in response to their immediate environment that are based on their previous experiences, beliefs and values. Setton (2001: 12) applies this fundamental cognitive linguistic principle to simultaneous interpreting, terming it abstraction; a projection and evaluation

process, which is a *metacognitive (mental) representation* involving map creation to help us make sense of the world. Dooley and Levinsohn (2001: 10) explain that discourse construction is influenced by two cognitive processes; i.e. perception and how information is stored and later accessed. Speakers choose their words based not only on their own mental models but also on that of their listeners', a process referred to as *map-matching* (Johnson-Laird 1980: 106). During the language transfer process, interpreters abstract and project information from the source language to produce a target language, relying on memory to recall stored information and draw from past experiences, whilst matching their metacognitive representational maps to that of the speaker, and ultimately to that of the target audience. According to Kohn and Kalina (1996: 12), *map-matching* is a complex cognitive affair, shaped by the simultaneous interpreter's own beliefs, values and norms, and also the presumed beliefs, values and norms of both the speaker and the receiver of information (Kohn and Kalina 1996: 122; Jungwha 2003: 2). What makes the task of interpreting possible is the degree to which the simultaneous interpreter combines enhanced *metacognition* and analyses the source discourse (Setton 2001: 22). The diagram below illustrates Setton's (2001) language processing model as follows:

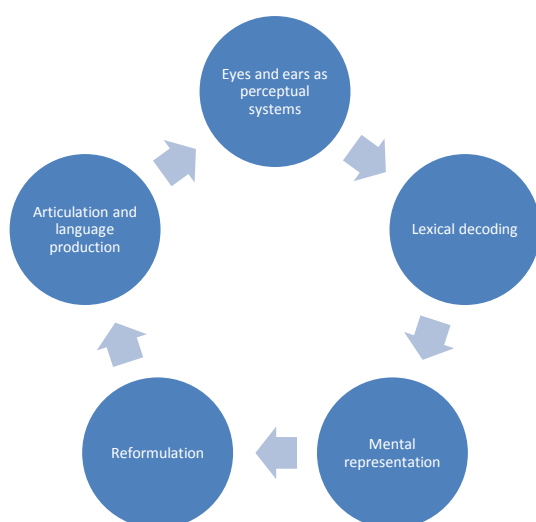


Figure 2: Adapted from Setton (2001: 17)

Setton's (2001: 17) cognitive model outlines the process, product and efforts from a purely cognitive-linguistic perspective, as follows:

Input	Process	Product	Effort depends on
Sensory input	Perception and decoding	Word strings	Speaker's use of language and acoustics
Context	Semantics	Propositions	Discourse structure

Situation background earlier discourse	Reference assignment Disambiguation Conceptual enrichment		
Clues from discourse connectors, prosody, marked word order facial expression posture	Pragmatics	Intentional utterances	Speaker's rhetorical skills pragmatic guidance
Meta-representation of shared meaning	Pragmatics	Implicatures	Appreciation of the speaker-audience relationship
Active linguistic abilities	Formulation	Target language speech	Norms

Table 2: Adapted from Setton (2001: 18)

2.3 Comprehension as a cognitive factor in simultaneous interpreting

The second cognitive factor in simultaneous interpreting is *comprehension*. Kohn and Kalina (1996: 121) explain that an overall sense-making of the world around us is a pivotal key in the process of simultaneous interpreting (Kohn and Kalina 1996: 121). Without comprehension the process of abstraction cannot take place. Chernov (2004: 20) defines comprehension as the retrieval of sense from a chain of semantic units perceived by the senses. Sentences in a natural language are comprehended and translated into mental models that take form in mental language and vocabulary, and inferences are drawn from these formed representations of the world as individuals see it, which provides a certain truth value (Johnson-Laird 1980: 86). Humans have an innate ability to adapt to their surroundings and survive because of their cognitive ability to make *associations* and *disassociations*, reflect on past experiences and anticipate outcomes based on *similarity* and or *dissimilarity* of environmental stimuli (Daró 1997: 622). Wright Forrester (1975 in Guers 2013: 6) was the first to define mental models as follows:

“The image of the world around us which we carry in our head is just a model [as] nobody in his head imagines the entire world, government or a country. He has only selected concepts and relationships between them and uses those to represent the real system.”

Below is an illustration that simplifies the process of comprehension.

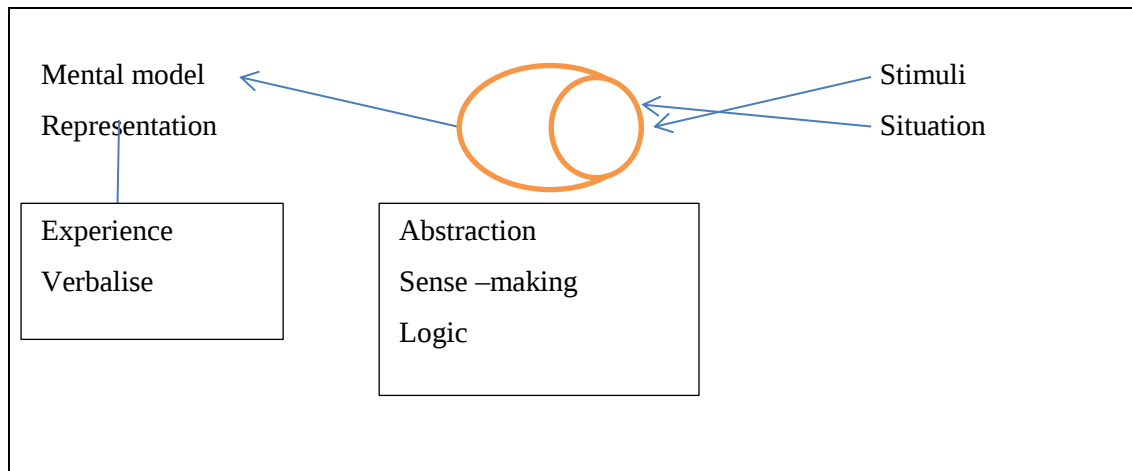


Figure 3: Comprehension (adapted from Johnson and Laird 1980)

What makes interpreting more intricate than everyday conversational language production is that the simultaneous interpreter has to consider both the source and target cultures, take into account the expectations of the target language audience and be aware of the cognitive functions applicable to all participants. On a metacognitive level, the simultaneous interpreter has to understand not only how the target audience perceives the content of the message but also how they store and access the information before the interpreter structures and produces the target language message (Dooley and Levinsohn 2001: 10). Compounding the task even more is that fact that the simultaneous interpreter has no control over the speaker (Kohn and Kalina 1996: 131; 141), and when the speaker is incompetent, vague, indirect, highly abstract, ironic or sarcastic; comprehension difficulty increases substantially, requiring increased cognitive effort. As previously mentioned, the simultaneous interpreter has to break down the information into a sense-making format during the language transfer process, which is also referred to as deverbilisation. Jungwha (2003: 1) highlights the importance of deverbilisation and references Seleskovitch and Lederer's (1976) "*théorie du sens*" based on four pillars that form the basis of deverbilisation: (i) command of the native language, (ii) command of the source language, (iii) command of relevant world and background knowledge and (iv) command of interpreting methodology. A full understanding of the source language during the process of language transfer makes the act of translation possible (Jungwha 2003: 2) and enables the interpreter to engage in a cognitive activity when he/she abstracts and projects concepts, extracts meaning from source discourse, and constructs representational models. What the simultaneous interpreter believes to be true is accessed by prior knowledge which he/she abstracts and projects and recalls from memory. According to Ageenkov and Candaele (2012: 13), deverbilisation (detaching from the source language lexicon) is the most critical stage of information processing. In such instances, memory

capacity forms a crucial part of the cognitive perspective in simultaneous interpreting, which will be discussed in detail in the next section.

2.4 Memory capacity as a cognitive factor in simultaneous interpreting

The third cognitive factor in simultaneous interpreting is the cognitive capacity to recall information which is central to the task of language processing (Ageenkov and Candaele 2012: 11). Seeber (2011: 193) defines the process of simultaneous interpreting as a comprehension and memorisation task, because the simultaneous interpreter stores information in the working memory while waiting for input to detach from the source language to produce a target language message. Trained interpreters are taught strategies to better retrieve existing information, understand the current input and predict the next sentences during the discourse transfer process (Jungwha 2003: 5). When the simultaneous interpreter recalls information during the act of language transfer, it is drawn from the explicit memory that Gile (2009: 162) refers to as the short-term memory or working memory. This part of the central nervous system is found in the central executive system of the brain; the part responsible for programming the mind, understanding instructions, making strategic choices, preparing and adapting cognitive tasks, monitoring performance and disengaging task sets (Ageenkov and Candaele 2012: 44).

As previously mentioned in Chapter One, the simultaneous interpreter is tasked to simultaneously listen, store and recall information, which places a high demand on the cognitive resources and has to be managed in the most economical way possible (Köpke and Nespoulous 2006: 19). The amount of information that can be processed is dependent on the pace of the speaker, and is limited to the capacity of the human brain (Chernov 2004: 16). The interpreter's processing capacity is a variable that adds to the difficulty of a simultaneous language transfer task, which becomes increasingly problematic when the task requires high level cognitive decision making, and when the demand exceeds the cognitive capacity of the interpreter (Kirchhoff 1976: 118). Seeber (2011: 180) explains that interpreting is a real time combination of language comprehension and language production, and discourse analysis allows the simultaneous interpreter to perform word recognition; information extraction and ambiguity resolution, to extract the meaning from what is heard. The problem however, is that the working memory of the interpreter is not only limited to the number of concurrent operations it can carry out, but also the amount of information it can keep available for processing (Seeber 2011: 179). Memory capacity or lack thereof therefore plays a significant role in mitigating cognitive load. The ability of simultaneous interpreters to perceive, comprehend and memorise is

influenced by the context in which communication takes place, which is discussed in the following section.

2.5 Context as a cognitive factor in simultaneous interpreting

Context is considered the fourth cognitive factor in simultaneous interpreting and refers to the situation in which the discourse takes place. Wilson (2002: 625) explains that cognition is situated, time pressured and dependent on the environment. Context and comprehension are interrelated processes, which means that the listener continuously contextualises, i.e. chunking information up to a larger knowledge schema and attempts to develop a viable mental representation of the source discourse. Dooley and Levinsohn (2001: 12) note that two kinds of *contextualisation* take place simultaneously in the listener's mind when decoding the source language: *internal and external contextualisation*. Internal contextualisation refers to the decoding and constructing of a mental representation of the content of the text, and external contextualisation refers to the decoding and deconstruction of what the speaker's intent of the message is (Dooley and Levinsohn 2001:12). According to Kohn and Kalina (1996: 123), it would be ideal if the interpreter and sender of the information were to share the same world and situational knowledge, but this is hardly ever the case, because the source discourse information is never intended for the interpreter. This creates a gap between the presupposed information of the sender and that of the interpreter, leaving the interpreter to operate from a disadvantaged perspective. Napier (2012) explains that only an experienced and trained interpreter is able to contextualise information and access his/her world knowledge efficiently.

Context and environment must be taken into account in the cognitive study of simultaneous interpreting, since these factors can influence the complexity of the interpreter's task in a number of ways. Kohn and Kalina's (1996) discourse-based mental world model refers to the complex ensemble of cognitive processes that allow for human interaction. Communication does not solely rely on linguistic knowledge, as both production and comprehension of source discourse appear to be simultaneous during the process of language transfer, but also on context, which can be subdivided into: (i) general world knowledge, (ii) knowledge about the communicative situation, (iii) discourse conventions; and the (iv) cultural knowledge of both the sender and receiver of the information (Kohn and Kalina 1996: 121). Once these aspects have been fully internalised, an interpreter will be able to employ anticipation as a fundamental strategy to process discourse. The diagram below illustrates the mental modelling process as applied to the task of simultaneous interpreting:

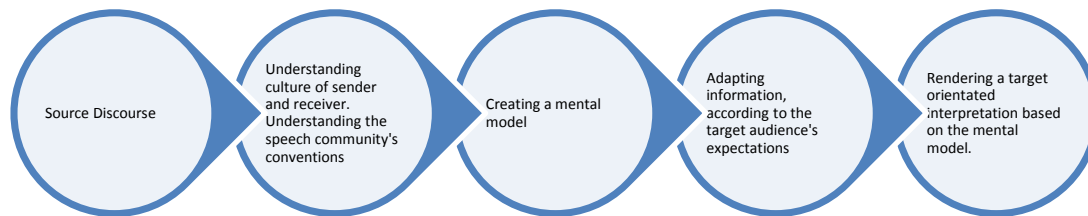


Figure 4: Mental modelling process (adapted from Kohn and Kalina 1996)

As previously mentioned in Chapter One, Dean and Pollard (2001: 3) categorise signed language interpreting a high demand occupation because the interpreter is exposed to various complex linguistic environments where interpersonal and intrapersonal factors come into play. The visually exposed signed language interpreter is a neutral conduit and cultural mediator, and is not in the position to make decisions that impose or shift the power dynamics between the sender and receiver of the discourse (Dean and Pollard 2001: 11). This lack of control in a demanding environment leads to stress. Owing to the physical nature of signed language interpreting, interpreters must develop a unique knowledge base and skills beyond linguistics, so as to function within complex settings, putting them at a high risk of stress related illness, injury and burnout (Dean and Pollard 2001: 1). Dean and Pollard (2001) draw on Karasek and Theorell's (1979) occupational stress theory for the study of occupational stress associated with signed language interpreting. According to this model, an occupational environment will always comprise four possible quadrants, which relate to demand (high or low) and control (high or low). *Demand* refers to the requirements of the job and includes the aspects of the environment and elements that influence the individual. The term *control* (or job decision latitude) refers to the degree to which the individual is able to have control over the demands of a job, which includes decision making, relying on skills, implementing resources, and changing the environment. The image below represents the high demand, low control model as follows:

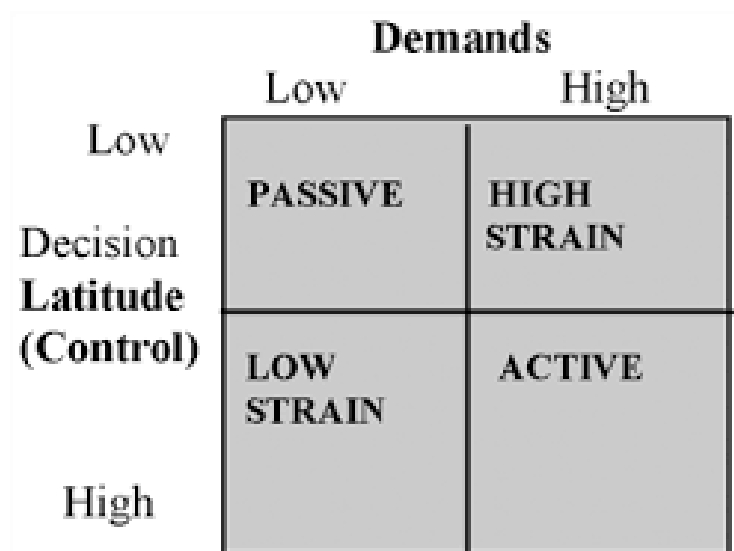


Figure 5: High demand, low control schema

(<http://www.nature.com/ijo/journal/v28/n8/full/0802720a.html>)

Dean and Pollard (2001: 4) assert that the strain of interpreting may include uncondusive working conditions, unattainably high performance expectations, and conflicting reviews of the clients' understanding of the interpreter's role, emotional reactions, and the prerequisite that the interpreter maintain a neutral role. They therefore categorise signed language interpreting as a high demand-low control setting. Dean and Pollard (2001: 5) list some types of demands to which the signed language interpreter may be exposed, which are tabled below:

Type of Demand	Sources
Linguistics	Client's communication modalities
	Clients linguistic fluency
	Clients' communication speed
	Clients communication clarity
	Voice volume; signing space
	Interpreter's receptive skills
	Interpreters expressive skills
	Use of technical vocabulary
Environmental	
	General nature of assignment
	Specific setting of assignment
	Sight lines
	Background noise
	Room temperature
	Chemicals and odours
	Seating arrangements

	Lighting quality
	Visual Distractions
Interpersonal	Parties' understanding of the interpreters' role
	Parties' adherence to expected role norms
	Communication directed to the interpreter
	Power and authority dynamics
	Oppression, dishonesty unfairness etc.
	Communication control, e.g. turn taking
Intrapersonal	Dynamics nature and intensity of the event
	Vicarious reactions
	Safety concerns
	Physiological responses and distractions
	Doubts or questions about performance
	Availability of supervision and support
	Anonymity and isolation
	No legal cloak of confidentiality
	Liability concerns.

Table 3: Dean and Pollard (2001: 4)

This model is a hypothetical framework positing that increased control over skills and resources, enable the interpreter to better manage these demands. In order to produce a reasonably comprehensible target discourse, the simultaneous interpreter has to have some strategic control, and be able to successfully and continuously solve internal and external problems that arise during the language processing task. Interpreters have to choose between two objectives; either faithfulness to the original source discourse or comprehensibility for the listeners. Should the variables outweigh the cognitive control the interpreter possesses, cognitive overload may be experienced which could result in a text level, word-for-word, superficial transliteration of the source text (Riccardi 2005: 754).

As previously mentioned in Chapter One, simultaneous interpreters rely on the strategy of anticipating information, especially when they interpret between structurally and grammatically different source and target languages. Anticipation, as conscious interpreting strategy, relieves the burden on the interpreter's memory and increases cognitive control (Kohn and Kalina 1996: 118).

The next section discusses norms and strategies interpreters implement to increase their cognitive control.

2.6 Simultaneous interpreting - a norm driven task

Norms in the context of interpreting studies were first introduced via translation. As previously mentioned in Chapter One, Toury (1995: 56) calls translation a norm-governed activity and distinguishes between *preliminary*, *initial* and *operational norms*. Policies that regulate the actual nature of the translation, and the regulations of what is permitted in the translation itself, encompass *preliminary norms* (Toury 1995: 58). *Initial norms* refer to the overall strategies involved in translation, and *operational norms* are observed decisions made during the process of translating (Toury 1995: 58). Chesterman (1997: 175 as cited in Hermans 2013: 3) takes the interaction between fellow language practitioners and audiences into account and includes *product* or *expectancy norms*, which are norms that reflect what the translation should look like based on audience expectations.

Hermans (2013: 2) explains that norms are developed through shared knowledge and cultural realities within communities which are relevant to the entire language transfer operation, and not just the actual process of translation. Pöchhacker (1995: 33) asserts that interpreting studies should focus on the holistic concepts of text, situation, culture and discourse intent. The interpreter not only has to deal with textual difficulties during the translation process but also operates within a cultural environment with certain socio-cultural constraints; and therefore has to adopt different strategies based on expectations, rules and conventions that regulate his/her performance. As these strategies become more entrenched, they may become norms.

According to Kohn and Kalina (1996: 135), operational norms come into play when simultaneous interpreters implement *strategies* as part of the decision-making process of interpreting. Strategies such as omission, completion, chunking, deletion, explication, anticipation, addition and approximation are all implemented during the process of interpreting. Schjöldager (1995: 33) draws on concepts from translation theory and lists operational norms in simultaneous interpreting such as the use of repetition and permutation. The latter can be defined as the strategy of placing target text items in different textual positions, other than how they appear in the source text. Schjöldager (1995: 82) also lists addition, deletion and substitution as operational *norms* during the process of simultaneous interpreting.

Marzocchi (2005: 91) states that norms in simultaneous interpreting cannot be ignored, as every situation calls for a different set of norms; norms in professional interpreting differ from those in community interpreting; conference interpreting norms may vary from those used in television interpreting. Koskinen (2011) regards translation as a social institution and applies translation norms

to a sociological framework. She states that all translation is institutional and that institutions exist on three different levels: *abstract institutions*, which exist in the form of ideology, *formal institutions* such as establishments and *concrete institutions* that refers to the actual places where translation takes place; all of which share variable factors of uniformed actions governed by role expectations, norms values and belief systems (Koskinen 2011: 54). Mossop (1990) summarises this clearly:

“...translation always takes place in some kind of institutional framework and translational decisions are pre-determined by the goals of the institution within which the translator works” (Mossop 1990: 343 as cited in Koskinen 2011: 55).

This means the translator is governed by the institution’s ideology, status, regulations and, or censorship in his/her conscious or unconscious implementation of translation strategies but warns against overemphasis on equivalence, which may become ‘*translationese*’ (source text oriented translation) (Koskinen 2011: 51).

The next section contextualises cognitive factors in simultaneous interpreting and discusses problems and strains that lead to the increase in cognitive demand.

2.7 Cognitive load in simultaneous interpreting

As mentioned in Chapter One, Daniel Gile (2009: 159) hypothesises that interpreting requires mental energy which is only available in limited supply; therefore the interpreter has to divide cognitive attention between the efforts of listening, memorising and production, all of which compete against each other. Gile (1999: 157) provides a mathematical representation of his competition hypothesis:

$\text{Total processing capacity consumption} = \text{consumption of listening} + \text{consumption of memory} + \text{consumption of production}$
--

Table 4: Gile (2009: 159)

Gile (2009: 169) notes that when one effort demands more cognitive energy than the rest, cognitive saturation may occur. Such demands arise from certain constraints which Gile (1995, 2009: 192) refers to as *general problem triggers*, and are explained as difficulties in linguistic, semantic and physical features of the source speech. Environmental strains such as high stress levels, noisy environments, and a lack of background knowledge may lead to cognitive saturation. Gile (2009: 192 – 193) lists cognitive problems or *specific triggers* as:

- high speech density associated with a high delivery rate
- high density of information content
- external factors such as technical problems,
- unknown names
- a speaker's style of delivery
- numbers
- specialized discourse,
- poor pronunciation
- foreign accents,
- syntactic complexity
- monotonous or unusual intonation of the speaker
- faulty grammar
- homophones
- words rarely used in everyday speech

Interpreting lists are particularly burdensome because more information must be processed per unit of time, creating frequent interpretation problems (Gile 2009: 193). Setton (2001: 1) identifies several discourse-related difficulties; namely, internal and external interferences (noise), input speed of information received, (either too fast or too slow), monotonous delivery and the interpreter's preparedness. According to Setton (2001:1) discourse difficulties may include:

- syntactic complexity
- semantic density
- logical order
- word order
- stress
- prosody

Seeber (2001: 61) investigates the ability of simultaneous interpreters to anticipate source texts. He questions whether interpreters' are better able to predict/anticipate upcoming information between structurally different languages, (German and French) or between structurally similar languages, (Italian and French). Based on his empirical research, Seeber's (2001: 94), concludes that simultaneous interpreting from German to English relies more heavily on anticipation because the two languages are asymmetrical. Interpreting from Subject-Object-Verb structures into Subject-Verb-Object language structures generates more cognitive load than interpreting from Subject-Verb-Object structures into Subject-Object-Verb structures (Seeber 2011: 197). Christoffels and De Groot (2005: 465) observe that anticipation from the simultaneous interpreter is always evident when interpreting starts before the end of the sentence. When the subject matter is familiar, interpreters are better able to predict the incoming discourse, whereas paraphrasing demands higher levels of cognition. (Setton 2001: 16).

Cognition is time pressured and demands fast and continuously evolving responses (Wilson 2002: 626). There may simply not be enough time to build up a full blown mental model, resulting in cognitive bottlenecks, as humans predictably fall apart under time pressure, that is when the amount of perceptuomotor problems become too much.

2.8. Ways to mitigate cognitive load

Interpreter training, text analysis and preparation; understanding interpreting and translation methodology and using the environment as means to mitigate cognitive load, are all significant ways to increase the control in demanding situations whilst interpreting demanding texts. These aspects will be discussed in more detail.

Interpreter training is vital, as the high standards achieved by professional interpreters are not usually attained by untrained bilingual speakers (Kohn and Kalina 1996: 119). In order to lay a solid foundation for consecutive interpreting, text analysis needs to be taught first (Gran 1998 cited in Ribas 2015:816). According to Jones (1998: 41), the better the interpreter's understanding and analysis of the discourse, the better the interpreter is placed to reformulate the message in the target language. He suggests the use of mnemonic aids such as note-taking strategies to facilitate the process of successful reformulation to reduce the memorising effort, comprehension effort, improve decision making, and to help identify redundant information.

Gile (2009: 9) emphasises that interpreters and translators must have a good command of their active working languages, a sentiment which is echoed by Seeber (2014). The simultaneous interpreter is confronted with two coexisting language systems and has to be taught how to effectively manage them; selecting one for comprehension and the other for production, a task that requires a great deal of mental control. This is only possible through intensive training and may reduce the overall cognitive load (Seeber 2014: 3).

Kalina (1992: 220) asserts that comprehension skills are crucial to the interpreting process and regards consecutive interpreting as a preparatory exercise to simultaneous interpreting. In consecutive interpreting, speech comprehension and message production do not happen simultaneously, dramatically lowering the pressure on target speech production and short term memory (Gile 1996 et. 2009: 177). For this reason, teaching consecutive interpreting before the simultaneous mode is a good

method of scaffolding skills during training. Seleskovitch (1978, 1981: 38 cited in Kalina 1992: 219) gives several reasons why consecutive interpreting needs to be taught first:

- Once fully mastered, students can transfer the consecutive interpreting process to simultaneous interpreting.
- It is easier to make students aware of errors during consecutive interpreting
- Consecutive interpreting methodology focuses on comprehension and is best to scaffold the deverbalisation process.

2.8.1 Note-taking as a means of mitigating cognitive load

As discussed previously, consecutive interpreting is more controlled than the simultaneous mode. Consecutive note-taking assists the interpreter to remember, thereby reducing the pressure on working memory. Note-taking during the phase of listening in consecutive interpreting does not aim to duplicate or reproduce the source language speech, but helps the interpreter to recall and reproduce the structure of the speech (Gile 1996 et. 2009: 178, Jones 1998: 43). Gile (1996 et. 2009: 178) argues that note-taking requires less time than speech production in simultaneous interpreting as notes can be single words, abbreviations, drawings and symbols. The subject of note-taking has generated a number of studies and schools of thought from scholars such as Rozan (1956), Matyssek (1989), Gile (2001), Dam (2004 a, b) and Albl-Mikasa (2006) and Jones (1998: 43 – 70). Drawing on Rozan's (1956) seven principles of note-taking, Jones (1998: 49) lays out the minimum requirements of notes as follows:

- Ideas should be separated: the interpreter should note the structure of the target language in a preferred diagonal presentation to separate components of a sentence for easy reading when interpreting.
- Links have to be noted systematically in the left hand margin, outside the target language structure to link ideas and concepts
- Abbreviations and symbols help to save time in taking notes.
- The interpreter should have a numbering system to assist in memory recall and technical terms should be noted.
- Lists should be noted diagonally

2.8.2 Text analysis as means of mitigating cognitive load

A general framework for teaching discourse/text analysis to mitigate cognitive load remains largely undefined (Swabey and Taylor 2014: 2), although Volkova and Zubenina's (2015:98) *discourse and communication translation model* may provide a useful preparation framework to simultaneous signed language interpreters who adapt the spoken word into a gestural and visual mode of communication. Volkova and Zubenina (2015) put forward a methodology to be applied in translation analysis. Their model considers adaptation as an integral part of any translation process (Gambier and Gottlieb 2001;

Sanders 2006 cited in Volkova and Zubenina 2015: 90). Sanders (2006: 19), explains that adaptation is the attempt to make a text easily comprehensible to the target audience and is meant to eliminate inequalities between the source and target text, as they distinguish between socio-cultural adaptation and pragmatic adaptation (cited in Volkova and Zubenina 2015: 90). When confronted with the following sentence, the signed language interpreter has to decide how to transfer the rhetorical features in a visual, gestural language:

“A smile is a curve that sets everything straight”

Pragmatic adaptation occurs when the signed language interpreter adapts textual elements from the source text that would not make sense in the target language. Socio-cultural adaptation occurs when the interpreter substitutes source language cultural realities that do not exist in the target language, with cultural realities that do exist. This methodology may greatly assist the signed language interpreter, given that the simultaneous interpreter adapts language based on sound, to language based on vision. Volkova and Zubenina (2015: 91) further report on the two types of adaptation approaches also distinguished by Baker and Saldanha (2011: 41) namely:

Local adaptation (applied to segments of a text to cope with intrinsic structural, pragmatic, social or cultural translation difficulties)

Global adaptation (applied to the entire text caused by extrinsic factors of the source text i.e. such as adapting a stage play into a movie and inevitably changes the source text’s purpose, function and impact on the target audience)

Volkova and Zubenina (2015:91) explain that the translator has to decide whether to adopt a pragmatic or a sociocultural adaptation, or both, with the help of translation strategies

2.9.2.1 Pragmatic adaptation

The first approach to be discussed is the pragmatic adaptation approach. Kosonen (2011: 63 cited in Volkova and Zubenina 2015: 92) defines pragmatic adaptation as the “modification of the source text in order to produce a target text which conforms to the needs of a new language environment”. The discourse and communication translation model identifies certain source text criteria, based on Neubert’s (1968) classification. If the source text conforms to these criteria, this may warrant a pragmatic adaptation approach to the translation act (Volkova and Zubenina 2015: 92), such as the following:

- Stylistic devices such as metaphors, epithets, personification similes, parallelism, antithesis etc.
- Expressive elements of a source text as defined by Holliday (1964: 35 cited in Volkova and Zubenina 2015: 93) as linguistic features of formality and informality which include the total event of communication, the function of the text and the type of interaction.

- Syntactic constructions, which includes linguistic devices that create emphasis such as marked or unmarked sentence construction.
- Extra-textual factors of a source text which refer to time, text functions, place of communication and where the source text is produced.

Should the source text exhibit some of the above criteria, the following pragmatic adaptation techniques are proposed (Kosonen 2011: 56 cited in Volkova Zubenina 2015: 93):

- Omission
- Expansion
- Exoticism (substitution by rough equivalents)
- Updating (substitution by modern equivalents)
- Creation (creating a target text that preserves only the most important information of the source text)

The model also refers to Chesterman and Wagner's (2002: 60 – 63 cited in Volkova and Zubenina 2015: 93) pragmatic adaptation strategies:

- Explicitness change
- Interpersonal change applied to change the level of formality, degree of involvement and emotive level of the source text
- Changing the structure of rhetorical questions, exclamations and variations between direct and indirect speech.
- Coherence change applied to change the source text structure sequence
- Partial translation applied to change the source text to a summary
- Visibility change applied to change the author's level of presence in the text by adding footnotes etc.
- Trans-editing: a radical re-write of the source text

Baker (1992: 119) advises the translator to be aware of the thematic structure (theme and rheme) in the source text, which allows for better text analysis. Drawing from the Hallidayan approach to information flow (Halliday 2014: 661; 664), Baker (1992: 121) explains that a clause consists of two segments of which the first segment is the theme; i.e., what the clause is about, and the second segment, the rheme; the goal of discourse and expansion on the theme. Halliday (2014: 105) explains that a clause in its representational function, "construes a quantum of experience [by describing a process], a change, or lack thereof that takes place in the external or internal environment." According to Halliday (2014: 88) a clause as a unit may combine three different kinds of meaning:

- The theme: the point of departure of the for the message, the element the speaker chooses to ground the rest of his/her information on
- The subject; the element the speaker makes responsible for the validity of what he/she is saying
- The actor: the element the speaker chooses as the one who does the deed (Halliday 2014: 83)

The theme subject and actor combined is the thematic structure of the clause (Halliday 2014: 88). Most importantly Halliday (2014: 88) notes that in English thematic status is given to the first segment in the clause. The theme is the departure of the message and the rest of the remaining clause is considered the rheme (Halliday 2014: 89). When the theme is the subject, the clause is considered an *unmarked theme*. When the subject is not the theme of the clause, i.e. the subject does not appear in the beginning of the sentence, the clause is considered *marked* (Halliday 2014: 97). Thematic organisation is the most significant factor of text development and assists the translator in understanding the significant choices the writer or speaker made (Halliday 2014: 132). According to Sutton-Spence and Woll (1998: 59 – 62), the topic is usually established first in British Sign Language (BSL) and then commented on. The topic is important and marked in several ways: it is placed first in the clause, followed by a pause, eyes are widened when the topic is established, accompanied by a head nod; the topic may be signed by one hand whilst the comment is signed by the other hand; or a rhetorical question may be used followed by the topic. Sutton-Spence and Woll (1998: 61) explain that different parts of the sentence can serve as topics and comments, and explain that a subject-verb-object, object-subject-verb; or verb-object-subject order may be possible if the topic is marked.

2.9.2.2 Sociocultural adaptation

The second approach is sociocultural adaptation. Volkova and Zubenina (2015: 94) explain that people of various cultures create messages and construct utterances differently based on their sociocultural situations, and advise that a translator should take into account both the source text and target text culture, as they mediate between the two. Chang (2009: 95 cited in Volkova and Zubenina 2015: 94) observes sociocultural peculiarities between the source text and target text culture that may trigger sociocultural adaptation. These refer to differences such as:

- Temporal and spatial perception of reality between two cultures
- Conceptualisation of a notion
- Syntactic and discourse organisation of two languages
- Choice of lexical meaning

Volkova and Zubenina (2015: 94) list the source text criteria which may hinder the process of translation and trigger sociocultural adaptation as classified by Birdwood-Hedger (2006: 105):

- Cultural lacunas and realia which are culturally specific for a particular nation
- Words denoting measures
- Names that may sound unnatural for the target reader
- Translation of pronouns

- Idioms
- Word play
- Translation of culture-specific gestures described in the source text

These problems are very similar to those identified by Baker (1996: 17), who lists problems of non-equivalence at word level as follows:

- Culture specific concepts
- The source language concept is not lexicalised in the target language
- The source language word is semantically complex
- The source and target languages make different distinctions in meaning
- The target language lacks a subordinate
- The target language lacks a specific term
- Difficulties in physical or internal perspective
- Differences in expressive meaning
- The use of loan words in the source text (Baker 1992: 21 - 26)

Drawing from Kostrova (2006: 254 cited in Volkova and Zubenina 2015: 94), Volkova and Zubenina propose the following techniques of sociocultural adaptation:

- Transcription or transliteration of the original notion
- Translation by a more general word to overcome the lack of specificity and vice versa
- Translation by a less expressive equivalent
- Translation by cultural substitution
- Translation using a loan word with or without explanation
- Translation by paraphrase
- Translation by omission or addition
- Translation by illustration to express the source notion

Baker (1992: 26 - 42) also proposes strategies used by translators to overcome the problem of non-equivalence at word level:

- Translation by a more general word
- Translation by a more neutral less expressive word
- Translation by cultural substitution
- Translation by using a loan word or a loan word plus explanation
- Translation by paraphrase using a related word
- Translation by paraphrase using unrelated words
- Translation by omission
- Translation by illustration

Baker (1992: 68) specifically refers to the difficulties of translating idioms used in the source text as they are culture specific and a target language equivalent may not always exist, adding that unless the target text idiom corresponds to the source text idiom both in form and meaning; it cannot be

successfully reproduced in the target text. Baker (1992: 72 - 78) provides a list of strategies to assist the translator to overcome the difficulties idioms hold:

- Using an idiom in the target text with similar meaning and form (similar lexical items)
- Using an idiom with similar meaning but dissimilar form
- Translation by paraphrase
- Translation by omission

Based on the theoretical underpinning of cognition in simultaneous interpreting and the emphasis on text analysis, the next section of this chapter discusses the cognition within the context of television interpreting.

2.9 Television interpreting – an overview

Television broadcasts have entertained and informed audiences world-wide since the early 1930s, whereas simultaneous interpreted television programming only became better known during the 1960s (Nishiyama 1988, Bros-Bann 1994 and Darwish 2006). It soon became apparent that the task of language transfer through an audio-visual medium requires different skillsets, and as international telecasts increased, so did the demand for simultaneous interpreted programming giving impetus to practitioners and researchers to spotlight the intrinsic difficulties attributed to working conditions in the broadcast media (Mack 2001: 125).

Both Snelling (1990:63) and Kurz (1990: 169) describe media interpreting as one of the most taxing forms of simultaneous interpreting, so much so that even those with proper training need ample time to prepare beforehand. The subject of media interpreting, however, remains largely under-researched, only recently garnering attention from researchers such as Kurz and Pöchlacker (1995), Wadensjö (1998), Stone (2009), and Wehrmeyer (2015), who mainly investigated expectancy norms in television interpreting.

Television interpreting in the simultaneous mode is known for its demanding environment. The cognitive, environmental and translational characteristics of simultaneous interpreting on television make for an interesting research topic. Specific conventions and norms have provided some solutions to contextual, linguistic and cultural constraints; however, simultaneous television interpreters are continuously confronted with the challenge of minimal cognitive control.

The last section of this chapter sets out to apply cognition in simultaneous interpreting to television as context and concludes by deliberating possible means of mitigating cognitive load specifically applicable to the context of television interpreting in the spoken mode.

2.10 Television interpreting as context

Television interpreting is similar to conference interpreting in that it operates in the here and now: in real time. What sets the two apart is the potential number of people the information reaches. More often than not, the media interpreter on television works from a remote studio with no immediate access to the target audience (Pöchhacker 2011:22). Katan and Sergio (2003: 131) describe the media interpreter as a highly professional, visible performer, torn between broadcaster and viewer expectations which constitute inherent challenges and constraints and may lead to an increase in stress. Riccardi, Marinuzzi and Zecchin (1998: 96) explain why stress occurs: “Stress is what occurs when an individual feels that environmental requirements clearly exceed the resources available to him for coping with them” (Riccardi, Marinuzzi and Zecchin 1998: 96 cited in Kurz 2003: 59).

2.11 Difficulties in television interpreting

Darwish (2006: 96) notes that unlike other forms of simultaneous interpreting where the interpreter has better access to resources to prepare beforehand, television discourse is seldom completely scripted, involves highly technical subject matter delivered at an excessive speed which may impact negatively on the quality of interpretation, increasing the risk of errors and omissions (Kurz 1990: 169). Discourse that contains lists, proper names, numbers, and culture specific concepts such as idioms, added to time limitations (Pöchhacker 2011:26), are some problem triggers (cf. chapter 2 Gile 2009) that increase cognitive load. Daly (1985: 91) notes that it is a prerequisite for the simultaneously interpreter’s discourse to appeal to a mainstream audience: a task that would tax even the capacity of a large computer system, especially if the source and target discourse differs in structure (Jumpelt 1985: 83). Structural differences between the source and target discourse influence strategies in the language transfer process directly impacting on lag time and anticipation. Interpreting between two asymmetrical language pairs is strenuous on the memory capacity of the simultaneous interpreter (Setton 2001, Seeber 2001, Lee 2006). Should the interpreter spend too much time on a sentence, it may lead to cognitive bottleneck. Darwish (2006: 57) explains that faithfulness to the source language and accuracy are strenuous factors for any simultaneous interpreter, but as television

interpreting is a socially accountable task, aired live and mostly uncontrolled; the stress levels are similar to that of an air traffic controller (Moser 1995 cited in Kurz 2003: 55). The next section discusses linguistic difficulties, environmental difficulties, technical difficulties and internal difficulties in more detail.

2.11.1 Linguistic difficulties

With the inception of simultaneous interpreting on television in Japan, Nishiyama (1988: 64 – 69) states that lexical difficulties presented one of the greatest cognitive strains. He explains a case in point that occurred during the interpretation of the Apollo Space launches in the 1960's, when many Western words had not yet been developed in the Japanese lexicon regarding space travel. According to Moser-Mercer (1996: 45), the complexity of subject matter under discussion, the rapid change in subject matter, types of discourse and discourse characteristics, all determine the probability of successful language transfer.

The conference interpreter addresses the challenge and risk of cognitive bottleneck by meeting with the speakers prior to conference proceedings, to clarify points and become familiar with the speakers' style and accent (Lee 2006: 203); however, this is rarely possible in live newscast interpreting. The simultaneous television interpreter may be unfamiliar with the speakers' accent, require more time decoding the incoming source speech and thus spend more cognitive energy on decoding the source language, which may negatively affect production and coordination efforts (cf. Gile 2009)

2.11.2 External difficulties – the environment

Moser-Mercer (1996: 45) states that the environment directly influences the quality of the interpretation and television interpreting is a more complex setting than conference interpreting (Mack 2001: 127). Cognitive strain increases when the interpreter is removed from the situation where the communication act takes place (Moser-Mercer 2005: 730). When operating from a remote studio, environmental factors have the potential to cause stress and cognitive strain, these may include: (i) temperature, (ii) humidity and (iii) air quality, which Kurz (2003: 54) calls environmental stressors. Heavy workload, infrequent breaks, long working hours, inability to cope with the volume and complexity of work, lack of training and lack of control, all lead to heightened stress levels and decrease the level of cognitive control (Kurz 2003: 51). The less control a person has over a task, the environment and interactions with the environment, the more cognitively demanding the task becomes

(Moser-Mercer 2006: 731). Fatigue increases when interpreting from video screens, remote locations or pre-taped material, because oral communication is a combination of verbal language, pitch, intonation, pauses and non-verbal cues (Poyatos 1997: 295 cited in Rennert 2008: 205). Should one of these be omitted from the communicative process, cognitive strain and potential overload could occur (Rennert 2008:205). Pöchhacker (2011:22) investigates the cognitive strain of remote interpreting in a studio-based environment, without a studio audience and no direct view of the speaker, and finds that this exponentially increases the difficulty of media interpreting.

2.11.3 Technical difficulties

Nishiyama (1988: 64 – 69) attributes yet another example of cognitive strain to technical difficulties. The speaker's voice may be drowned by the spoken language of the interpreter's own voice at critical segments of the speaker's utterance, which may result in distortions and omissions and lead to a cognitive bottleneck. The intense concentration which is required to recover from a cognitive bottleneck may result in fatigue (cf. Gile 2009). Nishiyama (1988: 65) tells of background noise during the 1960s Apollo mission broadcast that forced the interpreter to increase the sound volume to better hear the source discourse, thereby increasing the background noise (Nishiyama 1988: 68). Technical problems such as this may occur at any time during the broadcast while the language transfer process takes place (Mack 2001: 127).

2.11.4 Internal difficulties

A simultaneously interpreted broadcast has the potential to reach more people than any other single facilitated communicative event (Kurz 1990: 169), leaving interpreters open to public scrutiny; what they wear, the manner in which they speak, their behaviour and mannerisms: analysed and/or critiqued. This level of public exposure brings another dimension of strain to media interpreting. The simultaneous interpreter shapes the public's perceptions, beliefs and understanding of how a professional interpreter ought or ought not to interpret, and as such is a silent spokesperson who aims at projecting a flawless professional image (cf. Korzijsky 1951). The general public has developed a certain perception of an interpreter and expects a much higher standard than ever before, "at the same time [the consumer] judging their performance often too harshly without bearing in mind the multitude of factors that can affect the quality of interpreting" (Moser-Mercer 1996: 43). Negative viewer feedback, strict requirements on voice quality and speech presentation, all have the potential to impact on the interpreter's psyche. Public expectation, exposure and vulnerability caused by a lack of control invariably present the biggest internal difficulties of television interpreting (Mack 2001: 127).

The skill of sight translation is unique to television interpreting because the interpreter accesses both a studio monitor for visual cues, and a teleprompter that displays the source discourse autocues (Sergio 2011: 176). The simultaneous television interpreter is exposed to the risk of input overload given these multiple forms of stimuli; i.e. audible voices from the studio, sound feed from an earpiece, the fall back sound from the studio, the teleprompter and a hard copy script; all of which are limiting to some extent. The environment, constant information flow, time constraints, linguistic and semantic difficulties, technical glitches and internal strains, have the potential to cause early fatigue, stress, and increase cognitive load, and thereby create a cognitive bottleneck (Kurz 2003: 51). The television interpreter operates within a unique set of rules because the process of language transfer on this platform is considered a norm governed translation activity.

2.12 Norms in media interpreting

Norms to some extent, offer solutions to translational problems such as text, culture, power dynamics and mode of language transfer (Hermans 1993: 2) and, are equally applicable to television interpreting. Conventions that developed over time have been critically analysed since the 1960s (Gile 1995, Schjöldager 1995 Mack 2001, Wang 2012). According to Marzocchi (2005: 90) TV managers, media houses, the consumer and the practitioner are all stakeholders in determining these norms in operational levels.

2.12.1. Stakeholders in the determination of norms

Wallmach (2014: 2) refers to decisions based on specific institutional requirements as ‘institutional factors’, which in turn evolve into norms and rules. She applies institutional factors to a post-apartheid,¹ multilingual South African model of language preservation and development, as embodied in the institutional translation and interpreting process in South Africa, and draws on Koskinen (2011: 54), who describes the institution as a form of uniform action, governed by role expectations, norms, values and belief systems. The requirements of both the broadcasting authorities and viewer expectations influence the operational strategies simultaneous interpreters implement. Notably, the

¹ Apartheid refers to the period of white minority rule in South Africa between 1948 and 1994. During this time people of different races and ethnicity were forcefully separated under laws imposed by the National Party, a white Afrikaner government. These laws include the Prohibition of Mixed Marriages Act No 55 of 1949, the Population Registration Act No 30 of 1950, the Group Areas Act No 41 of 1950, and the Natives Act No 67, also known as the Pass Laws of 1952.

audience's expectations of an interpreter at times unfairly outweigh what he/she is capable of delivering. What the viewership wants is often difficult to achieve, if not unrealistic.

2.12.2 Preliminary norms in television interpreting

Sergio (2011: 178) notes that simultaneous interpreting is inseparable from journalistic commentary, "it is embedded in it" and the effects of media framing cannot be ignored. News reporting aims at making each single day an exceptional day. What happens in and around the world takes priority over what has been scripted previously; emphasis remains on the current and latest newsworthy information (Sergio 2011: 175). Sergio (2011: 175) explains that news programming is driven by the rapid unfolding of a situation and phrases such as "News just in", or "Breaking news this hour", indicate the current and most pertinent news making affairs. News as discourse is marked by discontinuity, fragmentation, brevity and the rapid succession of situations and topics, as discourse systematically violates the natural logic of dialogical communication of everyday use (Sergio 2011: 175). Scheufele (1999: 114) developed a process model that examines four factors governing the intent and purpose of news coverage: frame building, frame setting, individual-level effects of framing and the link between individual frames, and media frames. Journalists build frames according to how they make sense of the news or current information based not only on their own ideology, attitudes and professional norms, but also on that of the institution they are employed by, which may influence or underpin a specific institution's political orientation (cf. institutional norms chapter 2.8). External sources such as political actors, authorities and interest groups, become decision makers in the process of certain norms that may present constraints in the process of language transfer, especially on a semantic level. The way a media house portrays information influences the way in which people think, thus frame setting has the power to influence public opinion by under or over-emphasising certain values and events (Scheufele 1999: 116). Source text fidelity becomes a significant factor in simultaneous television interpreting, and Katan and Sergio (2003: 143) attribute this to the immense power broadcasting authorities hold. The interpreter and the journalist are both role players in disseminating information that shapes the receiver's cognitive metarepresentation of a specific newsworthy event (Katan and Sergio 2003: 143 cf. Chapter 2.2). The norm of faithfulness to the intent of the source discourse on television newscasts takes high priority; therefore the simultaneous interpreter needs to be cognisant of the effects of media framing. Researchers such as Daly (1985), Pöchhacker (1995), Mack (2001) and Darwish (2006) have recorded and analysed certain norms observed from spoken language simultaneous television interpreting and noted that operational, professional, expectancy and production norms are very much present in television interpreting, and are similar to Toury's (1995: 58) preliminary, initial and operational norms.

Chesterman's (1997: 175 as cited in Hermans 2013: 3) expectancy norms and Koskinen's (2011:54) institutional factors are extremely relevant to television interpreting.

2.12.3 Institutional norms in television interpreting

Television channels have policies on the genre of programming and programme controllers decide, for example, whether a voice-over, dubbing or a simultaneous interpretation would be best (Sergio and Katan 2003: 137). The programme producer and director attempt to match the gender of the interpreter to that of the source discourse speaker (Katan and Sergio 2003: 139). Daly (1985) reports on Eurikon, a pilot broadcasting project, was conducted in 1982 to test the potential appeal of simultaneous interpretation to a European audience. Between May and November 1982, close to 200 hours of broadcasting time was televised in 15 countries, from production centres in London, Rome; Vienna, Hilversum; and Baden-Baden. Programmes were dubbed, and subtitled with featured voice-over from a translated script. Daly (1985: 92) concluded that *only impromptu speeches be simultaneously interpreted*; and simultaneous interpretation should be the last resort, only to be used for live unscripted material, and on occasions when the purpose of language transfer is to convey an idea of the spoken content, and not the emotive intent. Snelling (1990: 15) is of the same opinion and recommends the following initial norms be implemented:

- The interpreter should not repeat in the target language that which is immediately clear from the action on the screen or from subtitles
- Numerals appearing on the screen should not be rendered in the target language
- New information not deducible from the context must be clarified
- The theme should not be clarified

Scheufele (1999) states that interpreters who violate these norms corrupt the speaker's intended meaning and influence the audience's perception of the communicative event. When a voice-over is provided, the original speaker's voice is audible in the background and softer than that of the interpreter's (Mack 2001: 125 & Pöchhacker 1995: 207 as cited by Darwish 2006: 67). In broadcasts of public addresses, the simultaneous interpreter is either physically present at the actual location, or at the television station accessing direct sound feeds and visuals through a monitor (Darwish 2006: 67). *It is recommended that the audience should still hear the original speaker when dubbing or voice-over is provided.*

According to Darwish (2006:81), there are two modes of simultaneous interpreting which are dependent on context and serve as initial norms: the rhetorical and the expository mode. The rhetorical mode is a source text oriented approach, whereas the expository mode is a target text

approach. The rhetorical simultaneous interpreting mode is a norm of language transfer mostly used in religious settings and in courtrooms. In this mode, the interpreter re-enacts the speaker's verbal and non-verbal paralinguistic features, which include any audible information; such as intonation, emphasis, volume, pitch, speech patterns, interjections, fillers, false starts, tone of voice and vocalisations (Darwish 2006: 81). The interpreter assumes an imitative role and runs the risk of investing too much cognitive effort in effectively re-enacting the speaker. The interpreter balances his/her cognitive energy between listening, comprehending and producing and runs the risk of premature fatigue. Darwish (2006: 83) cautions that this mode of language transfer may create role confusion, as the interpreter inevitably becomes emotionally connected to the communicative event leading to elocutionary errors and errors of meaning (Darwish 2006: 84). According to Darwish (2006: 83) the emulation of the speaker's paralinguistic features becomes extremely distracting for the viewer and discourages this mode altogether because:

- the interpreter runs the high risk of becoming a sympathetic party involved in the communicative event
- it is superfluous and distracting in a visual medium where all participants can see and hear the speaker
- mimicry is a waste of cognitive effort that leads to premature fatigue and productions errors resulting in cognitive overload

In Darwish's (2006: 83) opinion *the expository simultaneous interpreting mode of language transfer is the most suitable for television interpreting*. This mode does not only save on the amount of cognitive effort spent but is less distracting to the viewers and carries the intentions of the original speaker, without any imitation and paralinguistic features of the original voice. The expository mode focuses on the content and propositions of the speaker's utterances, and "seeks only to convey these qualities by alignment of linguistic patterns" (Darwish 2006: 80).

Darwish (2006) recommends *that only expert simultaneous interpreters should be assigned to media interpreting*. According to Wang (2012: 189) there are three forces that shape the quality of performance of the interpreter; namely, interpreting competence, conditions on site and adherence to the norms of TV interpreting. Audiences expect a media interpreter to be an expert language practitioner. Kurz (2003: 59) explains that experts are better able to: (i) identify meaningful patterns of information, (ii) bring more knowledge to a situation, (iii) organise knowledge more effectively, (iv) are more likely to have a deep understanding of the subject matter, (v) able to access knowledge relevant to the context, and (vi) retrieve important aspects of their knowledge with (vii) little attentional effort. Experts are better able to decide on production or emergency strategies in a split second because the skill of language transfer has become autonomously stored in their long term memory. They have honed their scarce skills through the years and developed the ability to, (i)

successfully retrieve data, (ii) recognise linguistic patterns in the source discourse, (iii) match and align these patterns to the target discourse while anticipating patterns that will follow (Darwish 2006: 60).

Darwish (2006: 55 – 106) reports on the use of simultaneous interpreters on Arabic satellite television, highlighting the lack of adequately trained and competent interpreters which led to high levels of interpreter turnover, and inevitably, viewer dissatisfaction. Viewers no sooner become used to one interpretation style when they have to adapt to another (Darwish 2006: 5). Inconsistencies in delivery modes in interpretation also leave the viewer irritated with the overall lack of quality in translated target discourse (Darwish 2006: 57). Darwish (2006) emphasises *the importance of quality and versatility of voice in television interpreting*. Katan and Sergio (2003: 138) note that *quality of voice is perhaps one of the most essential initial norms in television interpreting*, explaining that a number of valid interpreters have been rejected for failing to meet this norm.

2.12.4 Production norms

According to Bani (2006: 42), the most common production norms in press translation are:

- Cutting or summarising. The use of this strategy is the simple elimination of insignificant information
- Inclusion of explanations. This strategy is used when cultural elements are explained by means of paraphrasing or circumlocution inside the text
- Generalisation; when the cultural element is made more generic
- Substitution is used when the cultural element is not well known and is replaced by another functionally equivalent item which is better known by the reader

Bani's (2006: 42) common production norms are congruent with that of Volkova and Zubenina's (2015: 93) pragmatic adaptation strategies. Wang (2012: 189) discusses the most prominent production norms observed during political discourses at press conferences and notes the following:

- The norm of adequacy
- The norm of logic relations between concepts
- The norm of specification in information content
- The norm of explicitness in meaning

As interpreters facilitate communication at a linguistic and cultural level (Bani 2006: 42), extratextual elements should be added to make the overall translation accessible to the audience. Simultaneous interpreters generally have more control over time lag at conferences than on live television broadcasts. When interpreting for television, the interpreter needs to manage time lag efficiently as

long pauses lead to viewer uncertainty about the quality of interpreting. Anticipation as cognitive strategy is a significant production norm in television interpreting, compelling the interpreter to prepare prior to an interpreting assignment (Lee 2006: 202). Preparation increases the simultaneous interpreter's ability to anticipate information, thereby decreasing the time lag between the source language utterance and target language rendition (Wadensjö 2008: 184).

2.12.5 Expectancy norms

Katan and Sergio (2003: 133) explain that the viewer wants to spend as little cognitive effort in accessing the interpreted discourse on television, which implies that the *viewership expects the interpretation to match their existing map of the world*. Lee's (2011) qualitative data based on viewer feedback after a live broadcast of the Academy Award ceremony revealed that *Korean audiences preferred open captions to simultaneous interpreting voice-over*. Open captions allowed the Korean viewer to listen to the original voices while reading the Hangul captions without being distracted by a simultaneous voice-over (Lee 2011: 145). According to (Pöchhacker 2005), *viewers expect the simultaneously interpreter to deliver a fluent interpretation in an acceptable and standard accent*. Uncomfortable pauses and silences are distracting and irritating to the viewer. A long ear-voice-span goes against what the viewer expects leading to viewer dissatisfaction. By keeping ear-voice-span to the minimum, the simultaneous television interpreter produces a fluent interpretation, regardless of the structural differences between the source and target discourse; however, this remains a significant factor causing cognitive strain and overload.

The next section discusses proposed ways of mitigating the cognitive load simultaneous interpreters experience on television.

2.13 Television interpreting: mitigating the cognitive load

According to Moser-Mercer (2005: 731), simultaneous interpreters should form an integral part of the media framing process and be actively involved in setting up the physical or virtual environments they will work in. This will decrease the cognitive load they would otherwise experience. Darwish (2006: 66) suggest that interpreters can gain cognitive control by *analysing the text/source discourse*. This will increase the interpreter's ability to better recognise patterns, anticipate the next cue and enhance quality control. Interpreters can gain cognitive control by *possessing a vast general knowledge and accumulate background information* when assigned to news broadcasts, political debates and

speeches. Lee (2011: 150) suggests that this will decrease the risk of error/omission. General knowledge will assist the interpreter to grasp proper nouns, names, titles, inferences and better control the ear-voice span to limit time lag. *The institution should provide the simultaneous interpreter with a script well before the time to prepare* and have the opportunity to view the source discourse (*pre-recorded inserts*) prior to interpreting. This will allow the interpreter to better anticipate, decrease time lag and limit omission errors (Lee 2006: 202; Wadensjö 2008: 184; Pöchhacker 2011: 25). Interpreters have to understand the norms and dynamics associated with telecast interpreting to develop the necessary skillsets; such as, obtain prior knowledge, apply effective strategies, and grasp the importance of proportionate time allocation per sentence to not compromise the quality of the next thereby substantially improving their interpretation (Lee 2006: 214). The difference between novice conference interpreters and experts is that the latter have learned to overcome their fears and deal with internal and external stress more effectively (Kurz 2003).

Simultaneous interpreters on television *should have a clear view of the speaker*. This will help the television interpreter to access non-verbal cues and ease the cognitive process of contextualisation and comprehension (Rennert 2008: 208). Access to non-verbal information helps the interpreter when a part of acoustic information is missed that is, seeing where the sound comes from or by reading the speaker's lips. Reading lips is specifically significant in signed language interpreting, as most interpreters have acquired this skill. The majority of interpreters concur that being present in the communicative event increases cognitive control (Rennert 2008: 204).

Internal and external environmental factors, linguistic demands and the setting are all variables that influence cognitive strain to some degree. Jumpelt (1985: 84) recommends that simultaneous interpreters *should work in booths where sound is isolated*. The primary function of sound proof booths is to shield interpreters from distractions and background noise interference. Should these standards, established by the *International Association of Conference Interpreters'* technical committee, not be met, the simultaneous interpreter will experience early fatigue and the overall quality and performance will be adversely affected (Jumpelt 1985: 84).

The expository interpreting mode should be used for television interpreting to limit cognitive strain. Darwish (2006: 81) recommends this mode and explains that it is cognitively economic, avoids premature fatigue, production errors, and ultimately limits cognitive overload. The solution to mitigating the cognitive load for simultaneous South African Sign Language television interpreters is still to be documented and much can be learned from disciplines such as cognitive science, neurolinguistics, and translation norms and principles.

2.14 Conclusion

Interpreting necessitates source discourse comprehension, which requires mental representation. Representational models are context influenced and allow a simultaneous interpreter the cognitive ability to perform a language processing task. What makes simultaneous interpreting difficult is the lack of control and the interpreter's ability to problem solve. When the textual, environmental, internal and external demands outweigh the interpreter's cognitive ability, the task of language processing becomes increasingly difficult, which may lead to the increase in cognitive load and saturation. The audio-visual medium of television presents its own difficulties and strains on linguistic, psychological, physical and cognitive levels (Moser-Mercer 1996, Kurz 2003, Pöchhacker 2011). Furthermore, the interpreter is cognitively occupied in a translation activity, has to analyse internal and external factors, know how to translate and overcome certain translation difficulties. Chapter Three will discuss the context and difficulty of simultaneous South African Sign Language interpreting on national television. The profession of signed language television interpreters has developed a unique set of largely undocumented conventions and norms, influenced by institutional factors and audiences' expectations that guide the process of language transfer.

Chapter 3 - Simultaneous signed language interpreting on television

3.1 Introduction

In this chapter the focus falls on *signed Language interpreting* as an interdisciplinary study from a cognitive perspective and applies Dean and Pollard's (2001) high demand, low control model to the environment of simultaneous *South African Sign Language interpreting* on national television. The concept of signed language discourse features (Lawrence 1995: 205) is outlined and initial, production and expectancy norms are discussed (Bidoli 2011, Wehrmeyer 2015). This chapter points out certain institutional factors that may impact the cognitive load of interpreters and concentrates on difficulties and interpreting constraints, as discussed in Chapter Two. This chapter concludes by discussing recommendations from signed language interpreting scholars such as, Napier (2002), Winston and Monikowski (2005), Knox (2006), Lawrence (1995) and Stone (2009), who suggest possible strategies to mitigate the cognitive load.

3. 2 Simultaneous signed language interpreting

The study of simultaneous signed language interpreting, still in its infancy, has much to draw from spoken language simultaneous interpreting studies because "the process of interpretation is similar for both spoken language and signed language interpreters" (Humphrey 1997: 515). Despite this commonality, it is important to highlight two main differences mentioned by Petitto and Bellugi (1988 cited in Humphrey 1997: 515):

- There is absolutely no linguistic relation between signed and spoken languages
- The audience receives the message through different sensory mechanisms; the one being auditory and the other via a visual gestural system produced in a four dimensional space.

Sacks (1989:15) describe Sign Language as a gestural four dimensional language that encompasses the following dimensions:

- Time
- Location
- Movement
- Emotion

Padden (2000: 176) argues that signed language interpreting/translating requires more filtering and is more arduous than spoken language interpreting/translating. Based on the distinct phonology² of signed language, interpreters need the necessary background knowledge and cognitive skills to abstract spoken language source discourse; i.e. completely detach from an audio influenced culture and grammar, and reformulate the same message into a visual, four dimensional language that follows a subject – object – verb or object-subject- verb syntax (c.f. Taylor, Swabey and Gile 2015: 4, Sutton Spence and Woll 2000).

The next section unpacks Petitto and Bellugi's (1988) two claims in further detail from a signed language discourse perspective and highlights the main differences between spoken language interpreting and signed language interpreting.

3.2.1 There is no linguistic relation between signed and spoken languages

The signed language interpreter disconnects linguistically from the source discourse whilst being acutely aware of the communicative context, before producing a target discourse that holds the same intent as the verbal or signed source discourse. Humphrey and Alcorn (1995 cited in Humphrey 1997: 516) posit that the emphasis of equivalence is one of the several challenges the simultaneous signed language interpreter faces; i.e. to produce a target language interpretation that is not influenced by the source discourse and meets the norms and values of the target culture (Humphrey 1997: 517 c.f. Koskinen 2011: 58). Humphrey and Alcorn (1995) compare this metacognitive task to “*chopping down and reconstructing a tree*”, which requires advanced discourse analysis skills to discern differences between source and target languages.

² According to Sutton-Spence and Woll (1999), Sign Language consists of five distinct parameters:

1. Location
2. Hand –shapes
3. Movement
4. Palm orientation
5. Facial expression/Non-manual Features

3.2.2 Signed languages handle information differently

Lawrence (1995:205) discusses the disconnect between spoken and signed languages, and identifies seven major differences in discourse styles between American Deaf and Hearing “thought worlds”, which she calls *expansion features*, namely:

- contrasting
- faceting
- reiteration,
- utilisation of 3D space,
- explaining by examples,
- couching or scaffolding
- describe then do

In the following section each of these seven expansion features will be discussed.

Contrasting allows for one idea to be highlighted by juxtaposing two opposite ideas and is normally evident when the signer expresses what something should not be followed by what it is supposed to be. This may remind the reader of rhetorical questioning in South African Sign Language, however, this feature serves as discourse element that juxtaposes the positive with the negative, commonly done by means of a rhetorical question. Contrasting is observed in South African Sign language as well. For example, in English we might say:

“You are not allowed to smoke where you see a no-smoking sign.”

A back-translation from South African Sign Language reveals the same use of contrasting as expansion feature:

“Look behind you; see the sign? Does that mean you can smoke there? No, you are not allowed to smoke there, smoke somewhere else.”

Contrasting in discourse creates emphasis of the original premise; therefore stating what something is, followed by what it is not (Lawrence 1995: 207).

Faceting occurs when several different signs are signed sequentially to express an idea, not to clarify lexical variation and establish comprehension, but to convey the idea by creating the desired nuance of a sentence (Lawrence 1995: 208). This is observed in South African Sign Language discourse as well. In English we might say:

“The test was super easy”.

A back-translation from South African Sign Language reveals faceting as expansion feature:

“The test was yawning, write fast, struggle nothing, simple, easy.”

English is said to be one of the world’s most lexicon-rich languages, thus by stacking several signs, such as *yawning*, *write fast*, *struggle nothing*, *simple* and *easy*, used together is an attempt to find the equivalent meaning the source text intends to convey of the word *super* (Lawrence 1995: 208). Faceting is specifically prevalent in the interpretation of English words with Latin-roots such as: ambivalence, ambiguous, credentials and congruent.

According to Lawrence (1995: 208), *reiteration* in American Sign Language discourse occurs when signs are repeated within a passage for the purposes of emphasis, either because it is important to the context or because of cultural significance. The repetition of nouns is not considered reiteration and creates plural forms instead, whereas the repetition of adjectives and adverbs creates reiteration (Lawrence 1995: 208), which is observed in South African Sign Language discourse as well. In English we might say:

“I waited for an eternity at the bank this morning.”

A back-translation from South African Sign Language reveals that the verb is repeated to express the length of time:

“At the bank, I waited and waited and waited.” The repetition of wait emphasises the wait which seemed forever.

Space in American Sign Language is the most complicated and multi-faceted of all expansion features and is used to place/establish nouns in relation to distance, association and disassociation (Lawrence (1995: 208). By placing certain nouns in specific locations of the signing space, the signer recreates a smaller scale map of the actual world. Within context these nouns are replaced with pronouns to complete certain actions. In South African Sign Language a specific handshape that resembles the topicalised noun follows the preceding abstract or arbitrary signed and mapped noun, performs the verb action allowing for the creation of simultaneous multiple perspectives of an event. Morgan and

Aarons (2003: 125) refer to this as classifier predicates, used to construct sequential action between various nouns in an established space. The placement of nouns describes their proximal relationship within discourse context and space, and is also called topographic space (Lawrence 1995: 208).

Explaining by example occurs when signers string together several signs concluded by etcetera. This occurs in South African Sign Language when the English word “infrastructure” is translated; context dependent. The South African signer would sign:

“Roads, buildings, bridges, etcetera.”

Lawrence (1995: 213) describes *couching or scaffolding* as a series of signs grouped together to form a concept. This series of signs either adds to the background or provide contextual information. This is also used to introduce the schema of the discourse for the purposes of framing, which allows for the understanding of new information.³In English we might say:

“The bucket system will soon be phased out”,

In South African Sign Language the signer will frame the background knowledge. This feature becomes apparent in the following back-translation:

“Apartheid toilets that use buckets to remove urine and faeces will be changed to toilets that flush.
This is a basic human right.”

By analysing the above back-translation as signed language discourse norm from a cognitive perspective, the simultaneous signed language interpreter’s cognitive map meets the expectation of the target audience (cf. Chapter 2.2). Scaffolding as expansion feature of signed language is a complex cognitive affair (cf. Kohn and Kalina 1996:120).

Lawrence (1995: 214) describes the feature of *describe, then do*, (an embodied action) as one of the most salient features of American Sign Language discourse and is used when an utterance is enacted. This feature brings the text to life.

³ Scaffolding as expansion feature opposes the norm of spoken language interpreting on television where the theme according to Snelling (1990: 15) should not be clarified (cf. Chapter 2.13.3).

3.2.3 Signed language: a gestural, visual language

Sutton-Spence and Woll (1999: 129) explain that topographic space refers to the spatial layout in the signing space to represent things as they really are. Levels of authority and hierarchy are specifically significant to the signed language interpreter as the visual grammatical properties of signed language are applied in the signing space; for example, ‘national’ or ‘local government’, are signed and placed in the signing space from highest to lowest. When referring to topographical space, the signer linguistically maps out levels of authority, directional orientation, sequential representations and structural hierarchical concepts. Comprehension and clarity are facilitated by means of mapping or placing linguistic units of meaning in a signing space in front of the signer. The signer’s perception and abstraction ability is based on the understanding of the real world, its relation to society and the meanings of logic (cf. chapter 2.2 Korzybski 1951). Aspects of three dimensional spaces include:

- Referential space, i.e. directional verbs, eye gaze and role shifts
- Topographical space i.e. the signer’s space that can be used to represent objects and their influence in the real world
- Spatial mapping, i.e. the placement of nouns that are referred to later in the discourse
- Classifiers⁴, i.e. hand shapes that represent nouns and objects (Lawrence 1995: 210)

The most significant difference between signed and spoken languages is the use of space; therefore it is imperative that the signer has a good visual memory, the ability to visualise concepts and paint a picture of a scene in visual detail to produce a mini-representation of a mapped world through the use of space. Coordinated movement in signed languages has the potential to change an entire concept. In the translation of the following English sentence:

“Oscar Pistorius heard a noise coming from the bathroom. He got out of bed, made his way to where the noise was coming from and shot at the door several times.”

A Deaf consumer of signed language would require the following spatial information:

- what was the noise Oscar heard
- where was his bedroom in relation to the bathroom
- the specific side of the bed that he got out of
- how he physically made his way to where the noise was coming from
- how many shots were fired
- Oscar’s position in relation to closed door

⁴ It is important to note that classifiers do not only occur in signed languages. For the purpose of this study, classifiers and the use of space are highlighted.

Expert signed language interpreters visualise what they hear and recreate a visual map so that the text comes to life (Lawrence 1995: 211), which gives impetus to the importance of background explicitness (Janzen and Shaffer 2006: 36); however, such information is not always obtainable from the spoken language source discourse and becomes a linguistic difficulty.

3.2.4 Signed language has its own structure

Akach and Aarons (1998: 2) assert that signed languages are produced through the medium of space, using one's hands, face, head and upper torso. They furthermore state that South African Sign Language follows an Object,-Subject-Verb syntax. To meet the discourse norms of signed language, the simultaneous interpreter completely detaches from the source discourse, uses space, recreates a visual map, converts the message into a different sequential frame and fills in the missing gaps that spoken language does not reveal. The language transfer process demands a high level of cognitive control of the interpreter, creating more cognitive load (Seeber 2011: 197 cf. Chapter 2.4) and strains memory capacity.

3.3 Signed language interpreting on television: cognitive load

Swabey and Taylor (2014: 6) explain that live signed language television interpreting is regarded as one of the most difficult and stressful forms of interpreting. Italian scholar and researcher, Bidoli (2011: 174) expresses her concerns regarding the lack of research of signed language interpreting in television, which tends to focus on expectancy norms and comprehension (Duncan 1997, Stone 2005, 2009, Cokely 2005), instead of linguistic and theoretical aspects of television interpreting. ⁵Bidoli (2011:177) identifies six general difficulties the signed language television interpreter experiences:

- There is little space for lag-time, the interpreter needs to start and finish at exactly the same time as the newsreader (also see Kurz and Mikulasek 2004: 85)⁶.
- The signed language interpreter is confronted with a variety of current and unknown topics presented in rapid succession
- Finger spelled words and terms are often lost to the audience with low literacy skills

⁵ Wehrmeyer's 2015 study focuses on the comprehension and expectancy norms of Deaf South African consumers of television news.

⁶ Interpreters working on television should be aware that speed is of the essence and can be seen as a potential cognitive strain. The programme producer is most concerned with timing, this means that scripts are written and a strict time limit is given.

- Finger spelling slows down the interpreting process (Knox 2006: 193, Taylor, Swabey and Gile 2015: 20)
- Specific terminology related to law and crime results in cognitive strain

3.3.1 Linguistic and sociolinguistic difficulties

The South African Sign Language interpreter has to overcome linguistic difficulties that include, semantic challenges, issues around the official status of South African Sign Language, the impact of Apartheid and factors around language standardisation. Each of these factors is discussed in detail.

- South African Sign Language interpreters have to overcome cultural, lexical, dialectical and semantic challenges⁷

Due to past injustices and discrimination against South African Sign Language as a language of the Deaf community, lexical development has been slow adding to cognitive strain experienced by South African Sign Language interpreters and decreases the probability of successful language transfer (Nishiyama 1988: 64 – 69 cf. Chapter 2.11.1).

- South African Sign Language is yet to be recognised an official language of South Africa (see Akach and Aarons 1998: 4)

The South African Constitution (1996 a, b) recognised South African Sign Language and acknowledged SASL as a medium of instruction for Schools of the Deaf in the White Paper 6, and in July 2014 the Curriculum Assessment Policy Statement (CAPS) consented that South African Sign Language be taught as a subject in Schools of the Deaf.

- Apartheid resulted in the development of many Sign Language systems among different ethnic groups in South Africa (Aarons and Akach 1998)

Policy makers, academics and linguists alike are in the process of examining the complexity of codifying a South African Sign Language that still bears the brunt of marginalisation, oralist influence, segregation and negative stereotypes (Wehrmeyer 2015: 198). Akach and Aarons (1998: 21) explain that the first attempt to codify South African Sign Language brought about several misunderstandings and became a project that was widely criticised by the Deaf community. The

⁷Contrary to other spoken languages, South African Sign Language was only recognised as a medium of communication in 1994 and is protected by the Constitution of South Africa; yet South African Sign Language is still to be recognised as an official language. Language planning including policies regarding codification and standardisation of South African Sign Language is still an ongoing process (Parkins-Maliko 2016).

dictionary by Penn et al in 1992, implied that the structure of South African Sign Language is dependent on the structure of a related spoken language and that every word in English has a sign. The dictionary did not take the lexical context of signs into account and separated signs based on racial ethnicity and geographical origin (Akach and Aarons 1998: 21). What makes the codification of South African Sign Language so difficult is the fact that languages that are not written down develop rapidly and with more movement and fluidity. This is particularly evident in the Deaf community where people from various regions engage with one another and share their common knowledge. South African Sign language is more prominent on television than ever before due to technological advancement (Akach and Aarons 1998: 24). Most importantly, Akach and Aarons (1998: 26) conclude that Deaf people from various backgrounds and ethnicity have started identifying with a common language and a common struggle.⁸ Linguists assume that sign variation impacts on the mutual understanding between Deaf people. However, given that Deaf people as native signers naturally implement expansion features (Lawrence 1995) and share the same culture, South African Sign Language variation hardly ever impacts the mutual understanding between Deaf people.

- Many English words still do not exist in South African Sign since standardisation is an ongoing process

In many instances, the South African Sign Language television interpreter describes the spoken word concept. Nishiyama (1988: 64 – 69) ascribes insufficient lexical development as an added aspect to cognitive strain. Interpreters on television may spend more cognitive energy on decoding the source language, which may negatively affect production and coordination efforts should they be unfamiliar with the speaker's accent, regardless of interpreting mode (cf. Gile 2009). Interpreters are assigned to meet the demands and expectations of their audiences. The simultaneous signed language interpreter experiences sociocultural strain as the Deaf community is not privy to substantial input from the world around them. Deaf people are mostly excluded from 'corridor talk' and lack equal access to general world knowledge and information sharing with the hearing world; therefore they are, in a sense, compromised. This means that the signed language interpreter is required to provide information that is not in the spoken language source discourse, as well as have the background knowledge on order to understand the concept, which adds to the linguistic difficulty and cognitive strain. Knox (2006: 194) notes that the signed language interpreter must use existing language to explore uncharted territory under stressful situations, causing more frequent interpreter omissions and

⁸ eDeaf, an acronym for employment and empowering of the Deaf, has developed an android smartphone application of 2500 recorded signs. This application indirectly contributes to the codification of South African Sign Language, and by the contextualisation of lexicon (www.edeaf.co.za).

errors (Knox 2006: 194). Bidoli (2011: 187) lists eight linguistic difficulties of signed language interpreting on television:

- The time factor, involving the time of the bulletin and the speed of enunciation
- Subject specific terminology
- The use of container terms and acronyms
- Culture bound terms
- Home and foreign proper names
- Toponymical references
- Foreign loan words
- Emphasis through facial expression.

3.3.2 External difficulties

Spoken language simultaneous conference interpreters are assigned to sound booths equipped with microphones to access the target audience through earphones, whereas their signed language counterparts are visible to the conference delegates, standing next to the speaker to directly access not only the Deaf target audience cues but also the speaker's non-verbal cues: non-manual features and judges understanding by map matching, to assist in the interpreting process. The complexity of television interpreting is that the interpreter is removed from the actual environment where communication takes place with no access to the target audience (cf. Pöchhacker 2011:22 as discussed in Chapter 2.10). Maliko-Parkins and Kotze (2016; personal correspondence) affirm the same and describe that the signed language interpreter in studio at the SABC has no direct communication with the sound, camera or production crew and no has access to visual cues. Maliko-Parkins and Kotze (2016 personal correspondence) further explain that they do have access to the news desk computer system that provides a line-up of the upcoming stories of the daily 18:30 news bulletin on SABC 3. The system is updated as and when the news stories come in and only finalised minutes before the live newscast. The interpreter is called to the news desk one hour and thirty minutes before the scheduled bulletin to prepare, and at 18: 15 takes position in front of a camera with access to an autocue and programme monitor. Access to sound from the anchor presenters and inserts are obtained via an earpiece and studio fall-back sound.



Figure 6: SABC Studio (Du Toit: March 2016)

Kotze (2016: personal correspondence) explains that the interpreter is positioned in front of a blue screen in the same studio where the newsreaders and camera crew are, secluded by a partition that separates the interpreter and prevents access to visual cues (cf. Pöchhacker 2011:22). In addition, Kotze (2016: personal correspondence) reports that The SABC 3 signed language interpreter in studio is exposed to high temperatures, high levels of humidity and a lack of air control. Kurz (2003: 54) refers to these as environmental stressors that add to the level of cognitive strain experienced. Maliko-Parkins and Kotze (2016: personal correspondence) highlight the following difficulties interpreters assigned to live SABC 3 newscasts experience:

- The interpreter receives a hardcopy of the script with the newsreaders' links minutes before the live broadcast⁹
- Telephonic interviews such as international calls and live crossings are not scripted and no prior access to the content can be obtained

⁹ This is contrary to Wehrmeyer's (2015:204) report that SABC signed language interpreters receive scripts in hard copy an hour prior to a live broadcast.

3.3.3 Technical difficulties



Figure 7: SABC studio autocue (Du Toit: March 2016)

Background studio noise from crew members who are not sensitised to accommodate the signed language interpreter becomes detrimental to the language transfer process. Kotze (2016: personal correspondence) specifically points out that should the teleprompter not be on the same eye level as the camera, the interpreter is unable to sight translate¹⁰ when required, breaking eye contact with the viewer; thus lacking technical support, which leads to added strain. Visual distractions such as crew members walking passed or when the interpreter is handed the hard copy script while on air, become distractions and break concentration which can result in cognitive bottleneck when the interpreter attempts to reassign the necessary efforts to listening, memorising or production efforts.

3.3.4 Internal difficulties

The South African Sign Language television interpreter has a live audience of approximately 52, 000 profoundly Deaf individuals (Wehrmeyer 2015: 197), and this awareness increases the stress levels, adding to their cognitive load. The South African public at large has become increasingly aware of

¹⁰ Thelma Kotze, a SATI accredited qualified simultaneous South African Sign Language interpreter asserts that she relies on sight translation during a live bulletin when she is unable to hear what the anchor presenter is saying.

what a professional simultaneous signed language interpreter should behave like. The increased awareness is in part attributed to the “fake interpreter” fiasco seen at former president Nelson Mandela’s funeral in December 2013. Furthermore, SABC 3 signed language interpreters note the added strain of national exposure: “We do not interpret to a Deaf audience only, but also to an audience who may be interpreters themselves, who may be uninformed regarding norms and television interpreting constraints. Negative critique and feedback from professionals, colleagues or users of South African Sign Language inevitably adds stress, as well as internal vulnerability. When the viewer accesses the national news on television through a signed language interpreter, he/she expects a professional service, regardless the internal turmoil or personal issues the assigned interpreter may be experiencing” (Parkins-Maliko: 2016 personal correspondence). Working in an environment that is pitted with inherent difficulties that stretch from environmental, linguistic, technical to external and internal, the television interpreter is constrained to meet the expectations of certain intital, expectancy and production norms.

3.4 Institutional factors influencing South African Sign Language television interpreters

Access to general world knowledge and current affairs through either a signed language interpreter, or captions on the television screen in live newscasts, assist the Deaf community world-wide to become autonomous members of a mainstream society (Kurz and Mikulasek 2004: 81), and affirms signed language television interpreting as a socially accountable task (Darwish 2006: 57 cf. Chapter 2.6). Political and institutional factors have shaped the socio-political and linguistic status of South African Sign Language as a tool of inclusive consciousness (Wallmach 2014: 11). Branchadell (2011) describes the pivotal role of translating minority languages when he refers to Toury (1985:7 cited in Branchadell 2011: 98) who states that translation “may certainly serve as a means for both actual preservation and development” of minority languages. As the Deaf community campaigns for South African Sign Language to become an official language, the fight towards equal access has become a symbol of inclusivity and nation building; while government continues its advocacy to legitimise and standardise previously marginalised languages (the revised White Paper on Arts, Culture and Heritage 4 June 2013 www.dac.gov.za > sites > default> files).

The *Independent Communication Authority of South Africa* (ICASA), has established sound partnerships with the different groupings of the disability sector and continues its dialogue around communication services (ICASA 2011: 59). ICASA is committed to facilitate communication and ensure inclusivity to public amenities and access to mass media and information. Its legal mandate is

to regulate communication services and protect consumers of communication services, such as broadcasting, which has resulted in the increased visibility of South African Sign Language Interpreters on national television.

3.5 Institutional norms

The three South African Sign Language interpreters assigned to SABC 3 operate under institutional norms established by the national broadcaster, policymakers and programme content controllers (Koskinen 2011:54 cf. Chapter 2.6). Institutional norms include the following:

- Both the SABC and ETV allocate 10% of their screen to the South African Sign Language interpreter (Wehrmeyer 2015: 213)
- Only expert accredited South African Sign Language interpreters are assigned to SABC 3 (SASLINC 2016: personal correspondence)
- South African Sign Language interpreting services are required for special programming as determined by ICASA, such as when the South African president addresses the nation

SABC 3 (news & special programming) contracted The South African Sign Language Interpreters National Centre (SASLINC). According to SASLINC's managing director, Thelma Kotze, since 2014 only professional expert simultaneous South African Sign Language interpreters, who are accredited by the South African Translation Institute (SATI), are assigned to live newscasts with the aim to ensure the best quality interpreting services rendered on SABC 3. In recent years the accreditation system has come under harsh criticism, which includes allegations of racial division; exclusion and oppression of specifically black SASL interpreters, lack of transparency of assessors, the scoring of accreditation tests, and the critical question of fair ethical administration (Parkins-Maliko 2015: 38).

- Structures are put into place to regulate the quality of South African interpretation services (Parkins-Maliko 2015: personal correspondence)

SATI is currently in negotiations with government regarding the accreditation process that aims at regulating the quality of all language practitioners in the country. As previously discussed in Chapter One, this is a much anticipated attempt from government to ensure that individuals do not take advantage of a system that adversely affects the Deaf and other minority language groups in South Africa. The attempt by government to establish a Language Practitioner's Council to regulate the quality of interpretation services rendered has since come to a halt as officials cite the lack of funds available as reason. (www.sati.org.za).

3.5.1 Institutional norms – a source of interpreting constraints

The South African Sign Language interpreter cognitively compensates for the 10% screen allocation and evaluates what signs to use that would be better accessed by the audience (Parkins-Maliko 2016: personal correspondence). This continuous self-evaluation and self-monitoring add to the cognitive strain experienced. Parkins-Maliko (2015: personal correspondence) reports that although ICASA (2011) predetermines the allocation of interpreter services on screen, the public broadcaster appears to misconstrue the extent of this requirement, and lacks the broader conceptual understanding of total inclusivity. Despite the South African Deaf community's complaints around the interpreter services allocated during special broadcasts such as government events, dignitary funeral services etc.; only the president's speech is simultaneously interpreted and not the proceeding speeches or closure speeches aired during special broadcasts (Parkins-Maliko 2015: personal correspondence). The SABC adheres to the predetermined institutional norm; however, by omitting interpreter services from preceding information, intertextual cross reference during key note addresses the context may be completely lost to the target audience who could not access the entire broadcasted event. The interpreter then provides extratextual information during the discourse transfer in attempt to compensate for omitted details, seeking to meet the expectancy norms which may add to cognitive strain.

As discussed in Chapter 2.8 of this study, certain institutional norms of spoken language interpreting on television directly juxtapose that of the signed language interpreter.

- Not only impromptu speeches are simultaneously interpreted into signed language. The signed language interpreter provides total inclusive access to the Deaf viewership
- The signed language interpreter clarifies certain aspects of the source discourse although it may be immediately clear from the action or on the screen or from subtitles
- Contrary to the spoken language interpreting norm, the signed language interpreter clarifies the theme of discourse
- Contrary to the expository simultaneous television interpreting mode as norm in spoken language, the signed language interpreter uses the rhetorical simultaneous mode to render full access. This mode is used in signed language interpreting despite the added cognitive strain.

3.7 Simultaneous Sign Language interpreting expectancy norms

Expectancy norms (c.f. Chapter Two) similarly apply to the Deaf community who are consumers of signed language interpreting. A study by Bidoli (2011) revealed the Italian Deaf community's expectancy norms as:

- the use of correct terminology
- correct grammar use
- fluency in delivery
- lively intonation
- a pleasant signing accent
- synchronicity with the newsreader
- *Native* accent (Bidoli 2011: 189)

Kurz and Mikulasek (2004: 85) also report on the expectancy norms held by Deaf consumers in Great Britain. Their survey revealed:

- The interpreter is expected to wear clothes that contrast skin tone to avoid any distraction or strain on the eyes
- Respondents prefer signers who are pleasant to look at and show authority regarding their knowledge of the subject matter

The South African Sign language interpreter on live SABC newscasts is assigned to the largest news corporation in the country (Skinner 2011: 1). According to Wehrmeyer (2015: 195), interpreting services on the SABC television news is the most visible form of simultaneous interpreting in South Africa and her reception orientated study focuses on the factors that influence comprehension, or lack thereof, experienced by the South African Deaf community, and records the South African Deaf community's expectancy norms as:

- Interpreters should avoid using unfamiliar or ambiguous signs
- Interpreters should mouth key words in English¹¹
- Interpreters should use adequate facial expressions
- Interpreters should articulate manual signs clearly

¹¹ This norm is contentious amongst language purists and certain academics as it contradicts the linguistic norms of signed language (cf. Chapter 3.2.1 "There is no linguistic relation between spoken and signed languages").

- Interpreters should adhere to South African Sign Language syntax
- Interpreters should have good signing proficiency
- Interpreters should guard against source text interference
- The interpreter should use explication and restructuring strategies
- The interpreter needs to be fluent and coherent
- The interpreter should adjust to the South African Deaf community's linguistic and cultural norms
- The interpreter should be sensitive towards using standardized sign and use dialectical variations for key terms when time allows

Wehrmeyer's (2015: 195) findings reveal that simultaneous South African Sign Language interpreters do not meet the Deaf community's expectancy norms, which limits the target audience's level of understanding. These expectations at times unfairly outweigh what he/she is capable of delivering. Comprehension of the source text itself seems to be problematic amongst South Africa Sign Language interpreters, which Wehrmeyer (2015:200) attributes to a multilingual South Africa, observations DeafSA (2009) and Leeson (2011) concur with, given that often neither the source language nor South African Sign Language is the interpreter's first language. Lotriet (1998) reports on the first formal training of South African Sign Language interpreters in 1997 at the University of the Free State, stating that both trainers and trainees experienced difficulties as they did not all have the necessary spoken language skills. English is, in many cases, the interpreters' second, third and even fourth language (Lotriet 1998: 6). Fabbro and Gran's (1988: 40) findings on early fatigue and language directionality need to be taken into consideration within a South African idiom.

3.8 Mitigating cognitive load – preparation and training

As discussed in Chapter 2.14, the same mitigating factors apply to the signed language interpreter, with the exception of the expository mode of simultaneous interpreting, which is what Darwish (2006: 81) recommends. Certain aspects particularly applicable to the signed language interpreter are highlighted in this section of the study. Harrison and Bakhtiniana (2013: 202) explain that the TV journalist and newscaster have a specific style of journalism. SABC news editor, Angie Kapelia (2016: personal correspondence) states that any journalist employed at the national broadcaster has to be well acquainted with the South African Constitution, broadcasting and other relevant laws; adhere to the BCCSA's (Broadcasting Complaints Commission of South Africa) code of conduct and ICASA's regulations. To meet this end, the SABC's editorial policy and style guides are made

available to the journalist¹² (cf. Koskinen 2011:54). Harrison and Bakhtiniana (2013: 202) explain that the interpreter needs to be familiar with the norms of style of the broadcasting authority and be cognisant of the six fundamental journalism questions; namely, *who, when, where, how, why and what*; which serve to guide the viewer in understanding the news. Harrison and Bakhtiniana (2013: 202) investigate the development of conscious strategies used by television news interpreters; however, simply providing a newscast script for the interpreter is an inadequate resource as they recommend:

- the text and image must be used in tandem
- the interpreter should be part of the editorial news team
- the interpreter should point to onscreen images for reference

It is significant that signed language interpreters understand discourse features, which enables them to make strategic decisions and decide what to omit from the source text (Napier 2005: 125).

- The interpreter should have access to prepare the source discourse

Gile (1995, 2009), Setton (2001), Seeber (2001), Kalina (2005), Riccardi (2005), Swabey and Taylor (2014) advocate the importance of prior preparation. Drawing from Kohn and Kalina's (1996) discourse-based mental world model, the better interpreters can anticipate, the less the cognitive strain experienced. Napier (2002: 118) stresses that signed language interpreters should possess the necessary experience and background knowledge prior to delivering an interpreting service to implement the appropriate strategies (cf. chapter 2.5) for conveying meaning across different socio-cultural contexts to assist the simultaneous interpreter operating in constrained environments. Padden (2000: 182) explains that "interpreting research should find ways to describe how interpreters manage in very short order to organize timing and articulation processes with linguistic and cultural knowledge, all with a very high level of sophistication, while also conveying to their clients that communication is taking place". Leeson (2005 as cited in Savvalidou 2014: 90) observes four common strategies applied by simultaneous signed language interpreters as production norms that assist in transferring the source language into the target language, which include:

- Omission
- Addition
- Substitution

¹²Journalists build frames according to how they make sense of the news or current information based not only on their own ideology, attitudes and professional norms (cf. chapter 2.12), but also on that of the SABC, which may influence or underpin its political orientation (cf. institutional norms chapter 2.12.13). External sources such as political actors, authorities and interest groups, become decision makers in the process of certain norms.

- Paraphrasing

Bidoli (2011: 197) specifically lists production norms, referring to them as cognitive coping strategies:

- Anticipation to avoid a long lag-time
- Avoiding finger-spelling as far as possible to eliminate error, misunderstanding and slowing down the process
- Reformulation
- Omission
- Chunking of information

Knox (2006: 183), a professional American Sign Language interpreter also stresses the importance of preparation to ensure quality and avoid psychological stress. Swabey and Taylor (2014: 2) note that despite the mutual agreement on the importance of preparation, there is no evidence based data for an effective approach to preparation. American Sign Language interpreters have no standard preparation strategies to mitigate textual, environmental and cognitive demand. Generally, interpreters would access agendas, notes, presentation slides, outlines, brochures, scripts, consult members of the Deaf community for lexicon, use the internet, make notes and analyse texts, but no intentionally applied strategies are taught or verified. The interpreter should draw from various tools and techniques to assist in the preparation process.

Winston and Monikowski (2005: 49) promote the use of discourse mapping activities based on creating an actual map of a text to see the relationship of three components: (i) perspective, (ii) content, (iii) context and (iv) form. This can take the form of drawing concepts in sequential frames by means of symbols, pictures and words. Discourse mapping enhances comprehension and develops analytical skills. There are no standard preparation techniques taught at South African tertiary institutions that provide simultaneous signed language interpreting studies, which include the University of the Witwatersrand, the University of the North West and the University of the Free State. Consecutive interpreting principles are not yet part of the curriculum to scaffold information transfer skills, as this is not a prominent mode of interpreting in the Deaf community (Wallmach, November 2014 interview). It is crucial that the signed language interpreter develops the skills to effectively gain control over cognitive tools such as information processing, memory, decision making and recognising aspects of discourse (Metzger 2005: 100).

3.9 Conclusion

This chapter highlighted the concerns raised by Bidoli (2011:174) regarding the lack of signed language interpreting research in the television media. The added cognitive strain South African Sign Language interpreters experience due to language variants, lack of codification, standardisation, socio-political implications and negative stereotypes was also emphasised. Cognitive overload as discussed in Chapter One and Two can only be mitigated by strategic control and preparation, the common tenet amongst scholars seems to be the need for a tool to accomplish cognitive control. No interpreter in South Africa has received specialised television interpreting training¹³ or has been explicitly taught how to prepare and deal with television as a high demand, low control setting. Based on the literature reviewed, it is therefore clear that there is a gap in the development and implementation of standard preparation strategies to mitigate the cognitive load experienced by South African Sign Language interpreters on national television.

¹³ According to Kurz (2003: 51), the lack of training is one aspect that leads to heightened stress levels and decrease the level of cognitive control (cf. Chapter 2.13).

Chapter 4 – Methodology

4.1 Introduction

This chapter details the underlying philosophy, research design, cyclical process of data collection and analysis, and discusses ethical considerations within the paradigm of grounded theory building. As discussed, television as audio-visual medium of mass communication presents a unique set of challenges to the simultaneous interpreter. This research study investigates the cognitive strain associated with the translational process of language transfer during live newscasts on national television termed a high demand, low control setting. The study documents possible means of mitigating cognitive load and draws from a grounded theory methodology to answer the research questions. This chapter details the research approach, theoretical sampling, the cyclical data collection process, research instruments, data analysis and ethical considerations.

4.2 Research approach - grounded theory

Spinks and Canhoto (2015: 1) explain that grounded theory was first introduced by Glaser and Strauss in 1967 and has since become one of the most widely used research methods to investigate qualitative *how* questions. According to Pandit (1996: 15), grounded theory research requires certain qualities of the researcher such as confidence, creativity and experience in both the research paradigm and topic being researched. This study is not an error analysis, but instead draws from various disciplines in line with the modern approach to interpreting and translation studies. The literature review retained its traditional place in the structure of this dissertation to assist in the iteration of the study and to provide context. Although it is important in grounded theory building not to be weighed down by excessive theory which may influence the impartiality of the analysis (Spinks & Canoto 2015: 3), the relevance of the literature becomes an integral part of the comparative process to develop a preparation model and thereby provide further recommendations. Literature reviewed in Chapters Two and Three reveals that signed language television interpreting has become a specialised field which is cognitively demanding, operating in a low control high demand environment as the theoretical evidence suggests. The grounded theory approach (Glaser and Strauss 1967) was used in a five phase cyclical data analysis process to obtain the data presented in Chapter Five of this study. By applying theoretical coding, strong theoretical data was obtained through observation and semi-structured interviews. The theoretical sampling assisted the researcher to obtain data from South African Sign Language

interpreters who are experienced in interpreting high demand, low control settings, as discussed in Chapter Two (c.f. Dean and Pollard 2001). The comparative analysis provided the context in which to present several recommendations based on the theoretical knowledge discussed in Chapters Two and Three. The next section reviews the initial research questions and discusses the objectives that are in line with the grounded theory approach.

4.3 Review of research questions

Research questions, although not a permanent fixture in grounded theory, have assisted in identifying the phenomenon of high cognitive load experienced by South African Sign Language television interpreters which became increasingly apparent throughout the course of the research. The table below outlines the research questions and their objectives as, follows:

Research question	Objective
How do SASL interpreters prepare prior to a high demand low control setting, such as interpreting on camera for a live TV broadcast?	Observed and recorded preparation strategies of expert South African Sign Language interpreters, which were analysed against a theoretical framework drawing from (Gile 2009).
What are the standard preparation methods that assist South African Sign Language interpreters to better control the cognitive demand during interpreting?	Documented the norms of preparation observed amongst the participants.
How does preparation assist the interpreter to better implement conscious, meaning-based strategies as opposed to unconscious form-based strategies suggested by Gile (1995) and Kalina (1996) and produce a target discourse that meets the expectation of the target audience as observed by Lawrence (1995)?	Observed and recorded signed language expansion features (Lawrence 1995) in the production of a target discourse that meet the audience expectations.
What is the main translation approach used by South African Sign Language interpreters when they are exposed to densely written spoken discourse?	Analysed each target discourse produced by participants and documented the strategies, which were categorised as either socio-cultural or pragmatic adaptation drawn from the translation model proposed by Volkova & Zubenina (2015).
What is the lag time difference between	Observed the time lag difference between each

unprepared and prepared target discourse?	participant's prepared and unprepared target discourse (Kohn and Kalina 1996; Seeber 2001; Shlesinger 2003).
How can the effects of cognitive load be mitigated?	Observed and documented techniques participants implemented to mitigate their cognitive load.

Table 5: Review research questions and objectives

4.4 Theoretical sampling

19 South African Sign Language television interpreters with various levels of experience were approached to participate in this research, thereby applying the norm of using only expert simultaneous interpreters (Darwish 2006; cf. Chapter 2.12). A letter was emailed to these prospective participants providing detailed information about the purpose of the study. However, getting their consent proved challenging as not every interpreter understood the purpose of descriptive studies and had to be persuaded that the study would not be evaluative or prescriptive, resulting in only six participants taking part in the research. The selection process of participants was carefully considered to stay within the framework of grounded theory. According to Corbin and Strauss (1990: 421), conceptual representation is more important than its geographical or demographical counterpart.

The grounded theory building of theoretical sampling proved best suited to the South African socio-economic conditions and historical factors, and included a specific group of individuals, i.e. experienced simultaneous South African Sign Language television interpreters. Demographic representation did not play a role in the theoretical sampling which was instead based on the norm of expert interpreters used for media interpreting; thus experience was pre-eminent over race, gender, age, background, and language directionality.

4.5 Triangulation

Wehrmeyer (2013: 120) defines triangulation as the use of different theoretical stances, methods and sampling to arrive at a set of conclusions. Data was collected through questionnaires, comparative descriptive discourse analysis between shifts observed in an unprepared and prepared simulated television interpreting discourse, reflective semi-structured interviews and documented preparation

material obtained from each participant. This aided the process of obtaining comprehensive data, as the collection method encompassed both the research design and theoretical framework and can be replicated. This method also permitted impartiality from the observer's perspective insofar as this is possible.

4.6 Data collection and analysis

The analysis of discourse between South African Sign Language and English is a complex affair as one is spoken and the other is gestural, therefore the analysis process draws from the theoretical framework of perception as cognitive science (Johnson-Laird 1980). Based on the scope of the study, the transcriptions do not annotate the linguistic features of each sentence. The methodology of this research focused only on discourse analysis and no linguistic annotations that include facial expressions, verb agreement, classifiers, handshapes, orientation and location were made. The transcription conventions used in the study are:

- One sign for an English word is written in capital letters
- When the sign could not be glossed by a single English word because there is no exact English translation, each English word is joined by a hyphen to show the reference to one sign
- Where necessary, indexing was indicated by (IX)
- Finger spelled words are written in capital letters with a hyphen between each word.

Transcriptions of the South African Sign Language target discourse documented the shifts between the spoken source discourse and the signed target discourse to allow for a semantic comparison between the source and target discourses. Wehrmeyer (2013: 279) describes the complexity of transcribing and annotating signed language discourse based on the visual and spatial features of signed language as follows.

“Annotation can be made with glosses or complete translation, but these written data cannot describe in an efficient way typical sign language properties such as simultaneity, spatial organisation, non-manual features etc. In our opinion it would thus be difficult to apply the computations used on written comparable corpora or on parallel corpora to comparable or parallel sign language corpora” (Segouat and Braffort 2009: 65 cited in Wehrmeyer 2013: 282).

For this reason, transcriptions of both unprepared and prepared target discourse were done in ELAN, a linguistic annotation software, and were based on the basic glossing system proposed by Sutton-Spence and Woll (1998: xi – xxi). Prior world knowledge (Kohn and Kalina 1996) within specific contexts has also been taken into account in the data comparison. Dean and Pollard's (2001) demand and control schema provides a foundation for the research design and forms a solid premise of

grounded concepts in the development of a preparation model. The data analysis was supported by Setton's (2001) cognitive processing model. Four research tools were used to ensure that triangulation takes place, namely:

- written questionnaires
- video recordings
- semi-structured interviews
- preparation notes

Preparation notes of participants were used to ascertain the common strategies by means of a constant comparative analysis between the unprepared and prepared interpretation of the linguistically dense source text. The design aimed to simulate a similar demanding environmental that took external and internal factors into account. This study drew from Volkova and Zubenina's (2015) discourse and communication approach to translation with the aim to document the initial norms observed from the sample group. To establish the initial norm as dominant approach to translation, the source text was analysed against Volkova and Zubenina's pragmatic and sociocultural criteria (2015). 137 textual elements were identified from the source text and participants' unprepared and prepared target language messages were analysed against the model's proposed translation strategies, to determine the dominant translation adaptation approach. Translation strategies were counted and the dominant adaptation approach was determined by the amount of strategies observed from either one of these models. The following equation was used to determine the dominant translation approach of each participant:

Calculation: Unprepared $\frac{X}{Y}$ $\times$ 100% = A Prepared $\frac{X}{Y} \times 100\% = B$ $A - B = \text{difference}$ X = total amount of strategies meeting criteria Y = 137
--

Equation 1: Dominant translation adaptation approach

The implementation of signed language expansion features (Lawrence 1995) and differences in lag time between unprepared and prepared target discourse (Setton 2001) were observed and compared. The following equations were used to determine the results:

$$X/Y \times 100\% = Z$$

$$100 - Z = \text{Average difference}$$

X = Unprepared total use of expansion feature

Y = Prepared total use of expansion feature

Equation 2: Difference in the use of expansion features

Time code of target language discourse segment = A

Time code of source language discourse segment = B

$$A - B = \text{lag time}$$

Equation 3: Time lag

Conforming to the stipulations of grounded theory (Corbin and Strauss 1990), the data analysis began immediately with the first data collected providing a premise for the observation phase, and retrospective semi-structured interviews in the common grounding concepts that were evident from all participants in the study. Cognitive strain, cognitive mitigation and preparation formed prominent categories for analysis and identified the need for a standardised preparation model.

4.7 Ethical considerations

As Janse van Vuuren (personal correspondence: 2016) states: “Researchers in South African Sign Language and interpreting are faced with a challenge which is unavoidable in the context of a visual-gestural language: participants are always identifiable because non-manual features form an important part of the linguistic structure of the language.” In the pursuit of ethically and impartial research, a letter of consent was sent to each participant to explain the following:

- All recordings will only be used for research purposes
- The research is neither evaluative nor prescriptive
- Participation in this study is anonymous and voluntary
- The participant is free to discontinue participation at any time without prejudice
- The information the participant provides in the written questionnaire and structured oral interview will form part of the research data

- The video footage of the participant's unprepared and prepared interpretations will form part of the research data
- The participant's mapped preparation will form part of the research data
- South African Sign Language is a visual language and facial expression forms part of the grammar and therefore participants consent to understanding that the footage will include their faces, although their anonymity and identity will be protected at all times
- No remuneration will be received, since all costs incurred have been the responsibility of the researcher and not that of the academic institution. No funds are allocated to compensate participants with regards to transport, accommodation and interpretation on the day when the research is conducted
- The study is not evaluative and aims to benefit the profession of South African Sign Language interpreting
- Should the participant wish to withdraw from the study, he/she may do so at any time, in written notification to the researcher, without any consequences whatsoever

Questionnaires and interviews held no risk of any psychologically harm. The questions successfully ascertained and elicited each participant's experience from the first and second recordings during the second phase of data collection

With the aim of protecting participants' identities in a small signed language interpreting community such as South Africa, additional consent was required and obtained before the information in the next section was documented. The six participants of this study are well-known South African Sign Language interpreters and citizens of this country.

4.8 Participants

Participant 'A' is an English speaking Caucasian female, aged 24, who has a total of four years' experience as simultaneous South African Sign Language interpreter and three years' experience interpreting pre-recorded inserts for a Deaf actuality programme aired on national television. Participant 'A' acquired South African Sign Language as a third language and obtained a B.A. honours degree in South African Sign Language linguists. She is not yet accredited with the South African Translator's Institute (SATI).

Participant 'B' is a mother tongue Afrikaans orientated signed language Caucasian female, aged 42 who has twenty years' experience as simultaneous South African Sign language interpreter and Matric is her highest qualification. She has two years' experience interpreting live television broadcasts and is accredited with the South African Translator's Institute (SATI).

Participant 'C' is a mother tongue South African Sign Language Caucasian female; aged 44 with a total of 24 years' experience as simultaneous South African Sign language interpreter of which 20 years include interpreting on live television broadcasts. She obtained a B.A honours degree in interpreting and translation with the University of the Witwatersrand and is accredited with the South African Translator's Institute (SATI).

Participant 'D' is a mother tongue South African Sign Language, Caucasian male aged 42, who has been a simultaneous South African Sign Language interpreter for the past 22 years, of which 20 years include interpreting on national television for both live and pre-recorded programming. His highest level of qualification obtained is a diploma in television production. He is not yet accredited with the South African Translator's Institute (SATI).

Participant 'E' is a first language Sepedi speaker, African male, aged 39, with 15 years' experience as a simultaneous South African Sign Language interpreter. He has been assigned to interpret live newscasts for the past 5 years. South African Sign Language is his third language. He holds a B.A honours degree in translation and interpreting and is not yet accredited with the South African Translator's Institute (SATI). He is the only participant of this study who interprets from Sepedi, his first language, into South African Sign Language, his third language, on live newscasts.

Participant 'F' is an Afrikaans speaking, Coloured female, aged 36, who has a total of 15 years' experience as a simultaneous South African Sign Language interpreter. For the past three years she has been interpreting live newscasts. South African Sign Language is her third language. She obtained two masters degrees; one in linguistics from the University of the Free State and another in international signed language interpreting from the European Master in Signed Language Interpreting (EUMASLI) scholarly programme. She is accredited with the South African Translator's Institute (SATI) and has completed the first phase towards accrediting as an International Sign interpreter.

4.9 Cyclical data collection, research instruments and analysis - an interrelated process

As explained in Chapter One, data was collected and analysed in a cyclical five-phase process. This is in line with building a grounded theory where the data collection and analysis are interrelated processes (Corbin and Strauss 1990: 419). The five phase process can be outlined as follows:

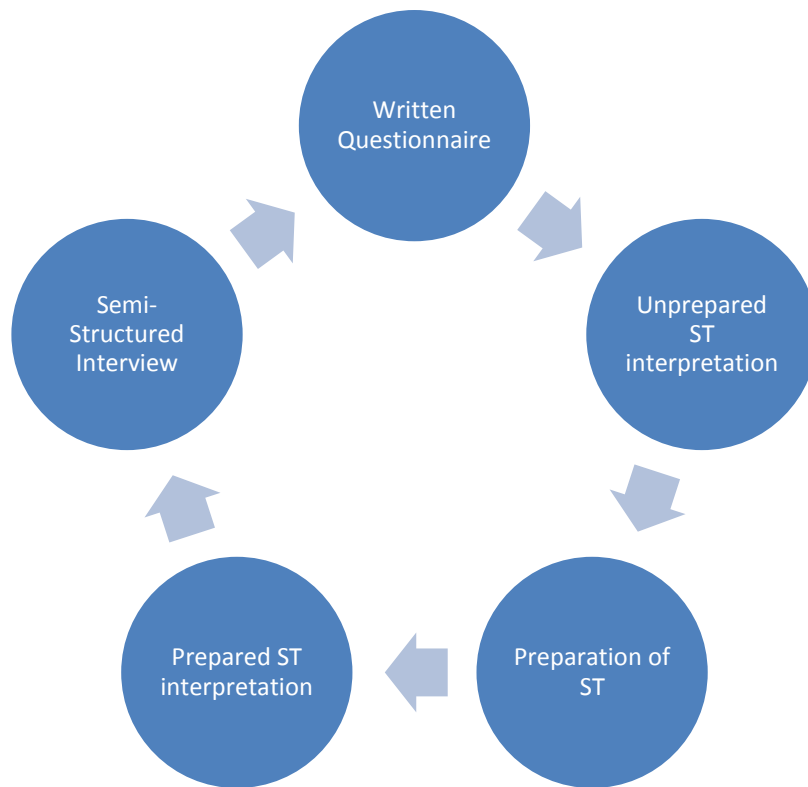


Figure 8: Data collection phases

In the first phase a written questionnaire was electronically sent to each respondent who consented to participate in the study. Once returned to the researcher, the data was captured and similar concepts obtained were noted and compared against other concepts for similarities and differences. This provided foundational core information that could be compared against the literature presented in Chapters Two and Three and F to abstract concepts, which were then grouped into categories and formed the cornerstone in grounded theory building (Corbin and Strauss 1990: 420).

The written questionnaire elicited background information such as race, gender, level of experience, qualification and accreditation status of each participant and questioned the importance of preparation prior to television newscast interpreting. The questionnaire also established whether participants have been taught how to prepare prior to a high demand low control setting. To obtain quantitative data through a mixed method approach, each participant was asked to rate stress levels experienced in interpreting settings according to a scale of 1 – 10; 10 as the most stressful interpreting situation and 1 as the least stressful. The settings were tabled as follows:

	1	2	3	4	5	6	7	8	9	10
Educational interpreting										
Religious interpreting										
Theatre interpreting										
Medical interpreting										
Telephone interpreting										
Conference Interpreting										
Television interpreting (live TV)										
Legal interpreting										
Liaison Interpreting/community interpreting										

The questionnaire also elicited the specific challenges and difficulties interpreters experience when they are assigned to live newscasts. Lastly, the questionnaire ascertained some qualitative data by eliciting initial, production and preparation norms, requesting each to provide an answer next to 15 qualitative statements:

- 1 - Strongly agree
- 2 - Agree
- 3 - Uncertain
- 4 - Disagree
- 5 - Strongly Disagree

The qualitative statements were tabled as indicated below:

Qualitative Statement	1	2	3	4	5
1. Sometimes preparation is more detrimental to the process of interpreting than interpreting without preparation.					
2. Lag time is not important when interpreting on national television, because there is no time anyway.					
3. I have no standard method of preparing before an assignment. I can't tell you how I do it.					
4. I have a standard and fool proof way of preparing before an assignment that I can show you.					
5. South African Sign Language Interpreters must first know about consecutive note-taking before they can interpret on national television. .					
6. I think interpreting on national television is the most stressful assignment.					
7. I don't like to prepare, because it just makes me more					

nervous before I have to go on air.					
8. I understand the importance of preparing prior to an assignment, but I don't exactly know how to do it.					
9. I struggle most with my lag time when I interpret on television.					
10. I refuse to go on air if I haven't prepared.					
11. I try to avoid spelling as far as possible when I interpret on television.					
12. Only interpreters with more than 5 years' experience should be assigned to live television broadcasts.					
13. Prior preparation is necessary for quality interpretation on television.					
14. Finger spelling is a great strategy on television to make sure that the information comes across in the clearest manner without any chance of misinterpretation.					
15. I hardly ever stress before interpreting on television, because no one watches anyway, the block is too small for people to actually see the signs.					

The second phase began with the video recording of the first unprepared interpretation. The same source discourse: "The Prince of Wales' keynote address at the Conference of the Parties (COP) 21 in Paris" was used in both the second and fourth phase of data collection. To emulate a live television environment, the participant was asked to interpret a pre-recorded source speech live on camera. The first recording of the unprepared interpretation, during the second phase of data collection, provided the researcher with the necessary data to use as reference for further investigative comparative analyses between the unprepared and prepared translations based on shifts in translation (Toury 1995), strategies in interpreting (Kohn and Kalina 1996) and expansion features (Lawrence 1995) observed. Each participant's target discourse was transcribed in the form of a gloss. Each participant's use of expansion features was observed in both unprepared and prepared target language messages and was annotated in ELAN. A total of 12 different tiers were identified of each interpretation that assisted in the comparison process of the data analysis. The image below shows the 12 tiers annotated in ELAN as follows:

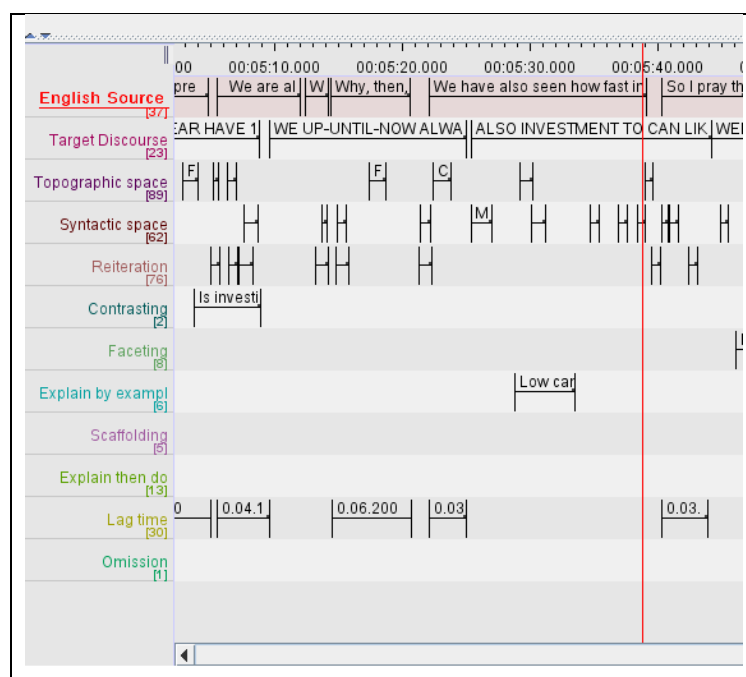


Figure 9: Example of ELAN (12 tiers)

For the purposes of this study, Prince Charles' key note address at the opening of Conference of the Parties (COP 21) in Paris 2015 was chosen as source discourse. The source discourse was transcribed using linguistic analysis computer software called ELAN. The source discourse was analysed using Volkova and Zubenina's (2015) discourse and communication methodology to determine the translation adaptation approach each participant implemented in the first and second target language message. Volkova and Zubenina's (2015: 92) discourse and communication model provides source text criteria that warrant a pragmatic approach and/or sociocultural adaptation approach to translation and details strategies own to each adaptation approach. The study observed the target language discourse strategies implemented to determine the dominant translation adaptation approach observed from each participant. Before the second recording of the prepared interpretation of the exact same ST, each participant was given an hour/60 minutes to prepare. Each participant was given a printed copy (hard copy) of the source text and was requested to; map his/her thought processes, analyse discourse techniques and list preparation strategies on a blank sheet of paper. Again the purpose was to obtain concepts relating to cognitive thought processes, deverbilisation techniques, text analysis strategies, comprehension strategies and identification of problem triggers (cf. Chapter 2.7), during the preparation phase.

During the third phase, participants mapped their preparations. Each participant's preparation methods were observed to identify similarities, differences, trends and patterns. After a maximum of an hour of

preparation, each participant again delivered an interpretation of the source discourse on camera; signalling the fourth phase. The second recording served as reference in the comparative analysis whereas the first recording was based on shifts in translation (Toury 1995), production and text strategies (Kohn and Kalina 1996), and expansion features. This comparative analysis applied both Volkova and Zubenina's (2015) methodology and Lawrence's (1995) signed language expansion features as observed between unprepared and prepared target language messages.

During the fifth and final phase of data collection, semi-structured interviews in English lasted an average of 60 minutes, which allowed for interactive reflection of the cognitive processes and stress levels each participant experienced. Participants were asked to rate their stress levels on a scale between 1 and 10; 10 being the most stressful; and to identify the difficulties experienced during the filming of both the unprepared and prepared target discourses. They were also asked to describe their preparation strategies. Thereafter, each participant was asked what the most tangible difference was between Phases Two and Four, and whether preparation made any difference.

4.10 Towards developing a model

The final stage involved the integration of categories by means of a conceptual comparison against the literature presented in Chapters Two, Three and Four. According to Corbin and Strauss (1990: 423), the researcher is tasked to show specific linkages between conditions, action and consequences; thus categories were identified and common central features were grouped together under expectancy norms, initial production norms and preparation norms. During the constant comparative analysis phase, categories were broken down into smaller units of meaning to ultimately integrate observations that allowed for the development of an emerging model of preparation.

To achieve this, reflective questioning during the collection and analysis phase assisted in reaching theoretical saturation, which means that all the various aspects were investigated and relevant questions were asked during the analysis of data. Investigating the conditions, observing how participants process conditions and reporting on the results of strategies used, categories were defined to eventually become interrelated as empirical evidence towards drafting recommendations with the aim to answer the research problem.

The diagram below details the categories identified during the data analysis phase based on the constant comparative process of consolidating theory and data obtained. It is important to note that these categories form a continuum. The diagram outlines the continuum as follows:

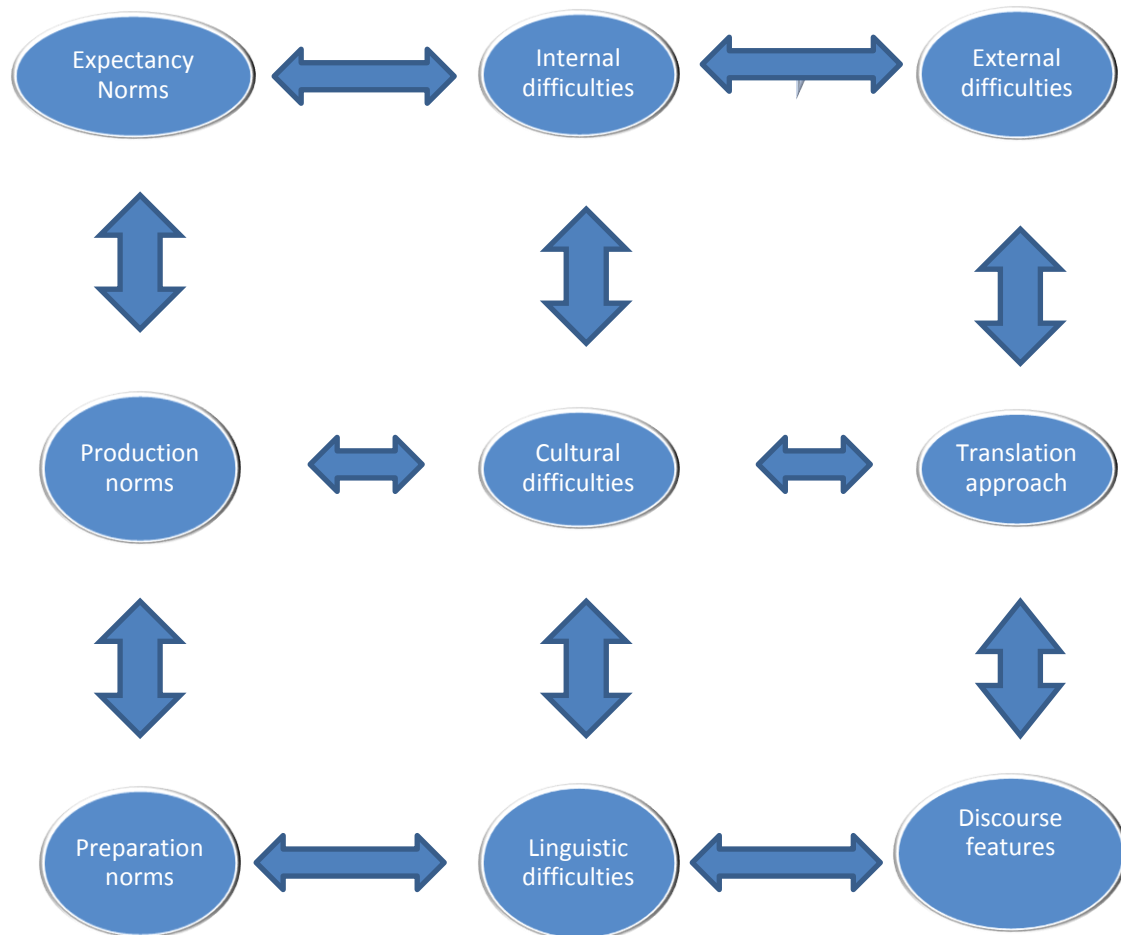


Figure 10: Categories identified through the process of data saturation

By comparing concepts revealed in the data collection and analysis process, the basic units for developing a model were discovered. These are based on observations, abstraction of concepts, categories and relationships between them that allowed for the integration of existing knowledge and the premise of the study.

The research design and framework allowed for the development of a draft preparation model to assist South African Sign Language interpreters to mitigate the cognitive load experienced when interpreting in demanding environments such as television.

4.11 Conclusion

This chapter provided an overview of the research design followed during the course of this study. This study is reproducible and verifiable, thus meeting the criteria as outlined by Corbin and Strauss (1990: 424). The instruments used to collect data, types of data and different frameworks supporting data analysis were highlighted. The major categories emerging from the data analysis, strategies and norms observed, the conceptual relation between each and literature comparisons will all be discussed in the next chapter.

Chapter 5 – Analysis and findings

5.1 Introduction

As is traditional in a grounded theory approach, Chapter Six constitutes the longest chapter of this research dissertation. In this section, data was obtained from each participant by means of triangulation, compared and analysed against theoretical knowledge discussed in Chapters Two, Three and Four. Categories were identified and findings were grouped into initial norms, production norms, expectancy norms and preparation norms. This chapter scientifically presents the analysis and findings obtained from the five cyclical phases of data collection based on a grounded theory methodology.

5.2 Phase One

During the first phase of data collection, participants were asked to complete a written questionnaire. The first section of the questionnaire ascertained each participant's background information, namely:

- age
- total years of experience
- experience interpreting on television
- language directionality
- accreditation status
- highest qualification obtained

The quantitative information obtained is tabled below:

Participant	Age	Experience	Experience in television interpreting	Language directionality	Accreditation Status	Highest qualification
A	24	5 years	3 years	L1 – L3	Non- accredited	B.A. Honours
B	42	20 years	2 years	L3 – L2	Accredited	Matric
C	44	24 years	20 years	L3 – L1	Accredited	B.A. Honours
D	42	22 years	20 years	L3 – L1	Non-accredited	Post matric qualification
E	39	15 years	5 years	L3 – L2	Non –accredited	B.A. Honours
F	36	15 years	3 years	L2 – L3	Accredited	Master's Degree.

Table 6: Participants' background information

Participants B, C, D, and F have more than 10 years' experience as professional South African Sign Language interpreters. Only three participants are accredited with the South African Translator's Institute SATI. Participants A, and D have little to no experience in live television interpreting; however, they do have extensive experience in pre-recorded television interpreting where preparation is an assumed standard norm and several "takes" can be re-filmed before it is "canned" (ready to be broadcasted). Findings reveal that pre-recording interpreting experience is advantageous to the scaffolding process of preparation prior to delivering an interpretation. Both unprepared and prepared translation adaptation approaches of the target language message were analysed against Volkova and Zubenina's (2015) translation adaptation methodology, signed language expansion features (Lawrence 1995), and lag time differences.

5.2.1 Language directionality

Quantitative data obtained from Phase One, was similar to Lotriet's (1998: 6) observations previously discussed in Chapter Three. Only participant A's first language is English. This has been taken into account during the data analysis phase, given that language comprehension effort may lead to added cognitive strain early fatigue. None of the participants' working language combination is L 2 – L 1 or L1 – L 2 (cf. also Fabbro and Gran 1988: 40).

The sample group's language directionality contradicts the European norm, which recommends only L2 – L1 signed language interpreters be assigned to live newscasts.

5.3 Stress levels

During Phase One, participants were asked to rate their stress levels associated with the nine general interpreting settings, namely:

- educational
- religious
- theatre
- medical
- telephonic
- conference
- legal
- community
- live television interpreting

Rating each setting according to a scale of 1 – 10, (1 being the least stressful and 10 being the most), participants were unanimous that television interpreting is the most stressful. The table below summarises their stress level ratings as follows:

	Educational	Religious	Theatre	Medical	Telephonic	Conference	Live Television	Legal	Community
A	7/10	6/10	7/10	9/10	3/10	9/10	9/10	9/10	4/10
B	7/10	2/10	8/10	2/10	3/10	5/10	10/10	7/10	5/10
C	6/10	4/10	7/10	9/10	4/10	7/10	10/10	7/10	4/10
D	8/10	1/10	8/10	3/10	8/10	8/10	6/10	4/10	8/10
E	10/10	5/10	9/10	10/10	7/10	8/10	10/10	9/10	7/10
F	10/10	1/10	5/10	10/10	5/10	10/10	10/10	10/10	5/10
Total average	8/10	3/10	7/10	7/10	5/10	8/10	9/10	8/10	6/10

Table 7: Participants' stress ratings in different interpreting settings

The graph below summarises the participant's stress rating from least stressful setting to most stressful setting as follows:

.

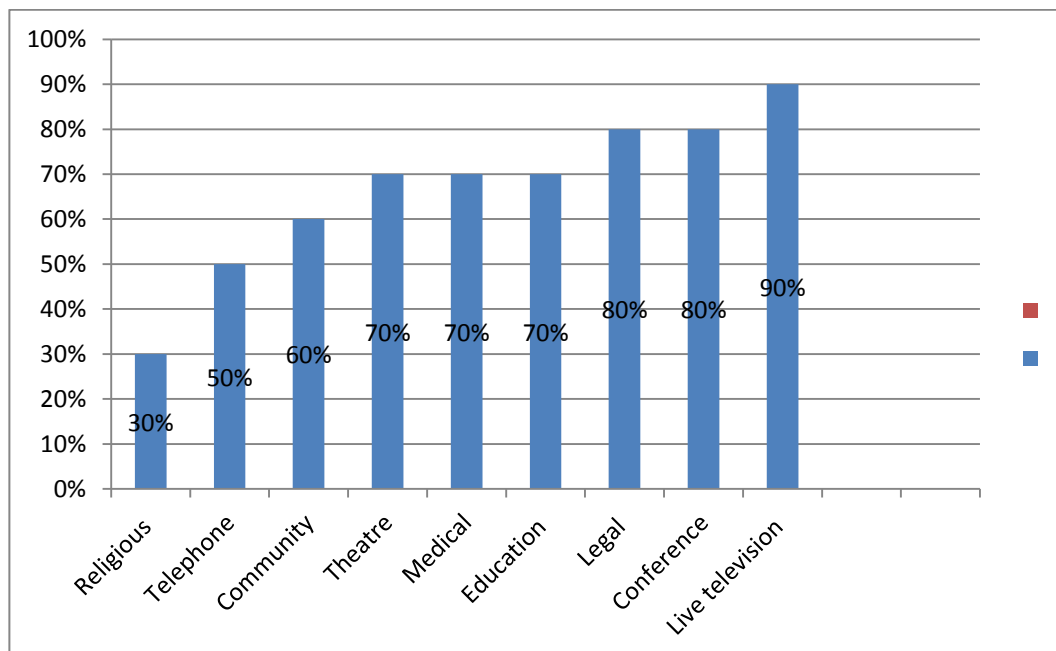


Figure 11: Participants' stress rating

Participants rated the least stressful to the most stressful settings as follows: religious, telephone, community, theatre, medical, educational, legal, conference and live television interpreting.

5.3.1 Internal and external stress factors

Findings from Phase One support the notion that television interpreting is a high demand low control setting (cf. Chapter 2.5 Dean and Pollard 2001). The next section discusses the participants' general difficulties of simultaneous interpreting on television obtained during Phase One. These difficulties are categorised as internal difficulties, external difficulties and linguistic difficulties.

5.3.3.1.1 Internal stress factors

During the first phase, participants reported on internal stress factors. These findings are tabled as follows:

Participant A	Participant B	Participant C	Participant D	Participant E	Participant F
Not knowing the subject matter	Fear of misunderstanding relevant subject specific terminology	Decision making	Lack of preparation	High concentration levels	Nervousness and fear of producing an inaccurate interpretation
The lack of a broad vocabulary	Being exposed to the unknown				Insecurity and anxiety
Subject specific terminology					Frustration and role confusion
					Self-criticism or self-doubt
					mental exhaustion and confusion

Table 8: Participants' internal stressors

According to participant C:

“It is very difficult to decide whether or not to use the actual sign for a word or concept, or to rather fingerspell which is always time consuming.”

Participant E explains the following:

“Interpreting live newscasts requires a great amount of concentration and factors that may impede or impact the ability to concentrate lead to a great amount of internal stress.”

Participant F is of the same opinion and explains:

“At the end of a day at 18h30 when the newscast is aired live, I am already tired and the tremendous amount of concentration required coupled with fatigue add to the strain and stress.”

Participants highlighted the effort of decision making within a limited time requires a great amount of concentration that often leads to increase in cognitive strain.

5.3.3.1.2 External stress factors

During the first phase, participants reported on external stress factors. These findings are tabled as follows:

Participant A	Participant B	Participant C	Participant D	Participant E	Participant F
Background noise	Background noise	Time limitations	Lack of Deaf protocol (insensitivity) crew members on set	Noise in studio from crew members	Time limit
Visual distractions in studio	The studio environment	Negative attitudes from crew members	High and unrealistic audience expectations	Technical difficulties that include sound feed and incorrect sound input	Interpreter inset size
Expectation of a flawless target discourse	High and unrealistic audience expectations	Lack of technical support and technical problems		Interpreting breaking news stories with no time to prepare	Unacceptable noise levels from studio crew and presenters
Interpreter inset size	Inaccessibility to material to adequately prepare before a live broadcast	Noise levels from presenters and crew members on set ¹⁴		Lack of availability of news content during the preparation	Physical environment

¹⁴ Interpreters continue to work whilst presenters are off air during which time noise levels escalate.

				phase	
		No hard copy of the script available to the interpreter and the unavailability of all texts and video inserts prior to the broadcasting			Unfamiliarity with the crew members is a stressor.

Table 9: Participants' external stressors

Participant D comments on the interpreter inset size (the 10% allocated screen space for the interpreter):

“[Programme] directors are concerned with screen aesthetics and not the clarity of the language”.

Participant F also explains that the interpreter inset size is one of her biggest frustrations, because space is central to the grammar of South African Sign Language, and when this is limited, many intricate signs and facial expressions may be lost to the audience. Participant F mentions that international media houses insert the interpreter as a “live person” (by means of chroma key), which looks more natural, clearer and “easy on the eye”. The technical term is ‘in-visioning.’



Figure 12: "In-visioning" example (<http://www.bbc.com/news/magazine-22294204>)

Participant F describes the feeling of inadequacy being left despondent after receiving feedback from colleagues who do not understand these environmental and technical stressors. According to participant F:

"Am I an interpreter or a presenter? I have a script but I rewrite the stories that I present. My colleagues expect a sequential source text- influenced target language message, and do not consider that I am attempting meeting Deaf expectancy norms: I then get feedback on a holistic level of understanding from the Deaf audience, which contradicts that of my colleagues who expect a source text oriented target message."

Participant F's response supports Dean and Pollard's (2001) view that conflicting reviews of the clients' understanding of the interpreter's role, choices of general strategies such as distortion, deletion and generalisation, and emotional reactions lead to strain (cf. Chapter 2.5). Participant F reports on the internal stress and negative impact that stem from conflicting peer reviews regarding what to fingerspell and what not to, what to deduce from the screen and what not to, what to omit and what not to. The following additional analysis carried out using ELAN explains concept in a clear and scientific manner:

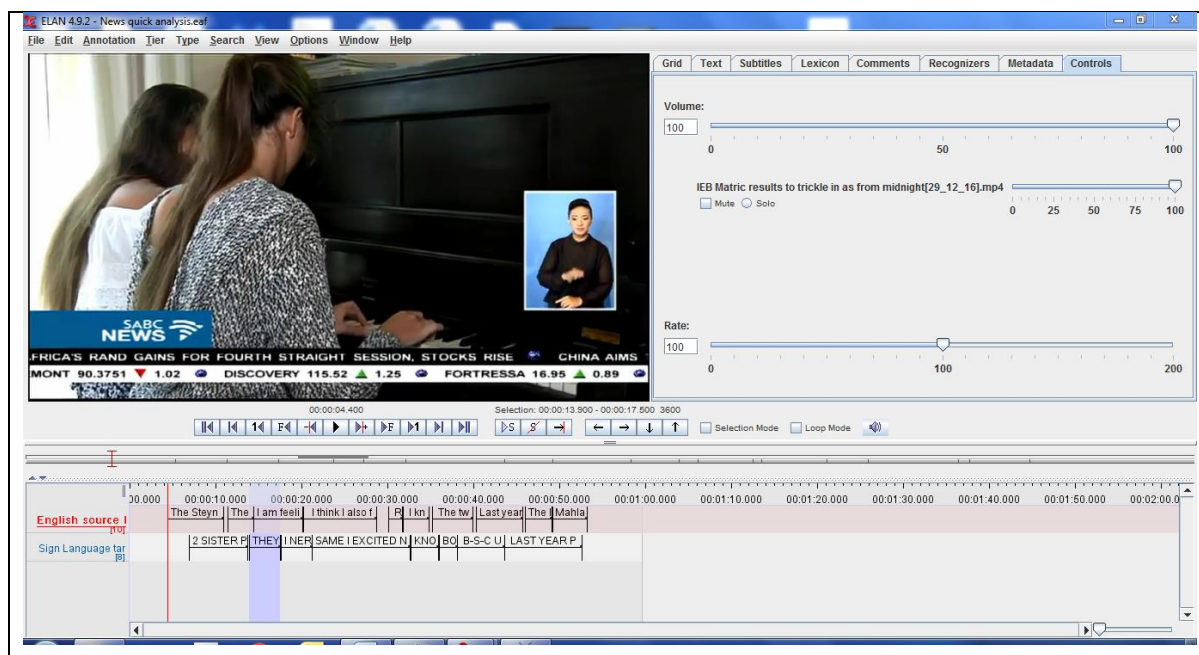


Figure 13: News bulletin SABC 3

(29 December 2016) (<https://www.youtube.com/watch?v=eGT0IrkY5TA>:

Annotation Spreadsheet	
English source language	
The Steyn sisters are amongst the 12, 000 pupils that wrote this year's IEB exams.	
They are confident that their preparations will pay off.	
I am feeling a little nervous and also excited to see what we get you know.	
I think I also feel nervous and excited, but we have prepared a lot this year so, I feel like I have to let it go now.	
Relax, wait for it to come.	
I know that we have do everything we could do so.	
The two hope to pursue a BSC in biological sciences at UCT or wits.	
Last year independent candidates achieved a 98.3 % pass rate.	
The IEB hopes to improve on that result.	
Mahlako Khumane; SABC news, Johannesburg	

Figure 14: ELAN: Transcription

Sign Language target message	
2 SISTER PIANO-PLAY THIS YEAR WRITE EXAM I-E-B MEANING PRIVATE SCHOOL	
THEY KNOW STUDY, PREPARE WOW, KNOW PASS WILL	
I NERVOUS HEART-POUNDING HOPE PASS WILL.	
SAME I EXCITED NERVOUS YEAR PAST TWO STUDY EFFORT FINISH FINAL NOW OBTAIN KNOW HOW DO WILL.	
KNOW EVERYTHING DO STUDY FULL.	
BOTH SISTER WANT TO WHAT?	
B-S-C UNIVERSTY CAPE TOWN OR WITS WHICH CHOOSE-CHOOSE DECIDE WILL.	
LAST YEAR PASS HOW MUCH 8928.% PASS HAVE MATRIC PRIVATE SCHOOL HOPE IMPROVE WILL.	

Figure 15: ELAN Gloss

Back translation
The two <u>sisters, playing the piano</u> , wrote the <u>private school examination</u> called, IEB.
They know that they will pass because they studied and prepared well.
“I’m very nervous and hope that I will pass.”
“I’m also excited and nervous.”
Over the past year, these two have put in a lot of effort and now that they have written the final exam, they know exactly what to expect.
They know everything and studied very hard.
Both sisters want to study a BSc degree at the University of Cape Town or at Wits and are still deciding where to apply.
Last year’s private school matric pass rate was <u>8928. %¹⁵</u> , a pass rate they want to improve.

The following observations are documented from the above analysis:

“*Sisters, playing piano*”:

Instead of fingerspelling their surname; Steyn (S-T-E-Y-N), the signed language interpreter avoided fingerspelling, which is time consuming and may lead to cognitive strain, relying instead on the screen titles.

The two girls’ surname is deducible from the from the screen titles as shown in the image below:



Figure 16: Titles deducible from the screen

The signed language interpreter also decided to omit “biological sciences” and finger spelled the word: B-S-C.

¹⁵ The interpret erred in the translation of the number, which is a specific problem trigger as discussed in Chapter Two.

Based on the above analysis, interpreter colleagues may critique the interpreter on screen for omitting specific information from the target message, when in fact the Deaf audience understands the message in its entirety.

Participant F proposes the following solution to mitigate cognitive effort resulting from external stressors:

“I suggest that constructive dialogue between signed language interpreters be facilitated, a “get-to-know -you” session to establish the mutual understanding of each person’s function and roles to eliminate the subtle “them” and “us” perception. There seems to be tension from crew members regarding the effort of adding a “sign person” to the screen, “which appears to be an aesthetic problem to producers.”

5.3.3.1.3 Linguistic difficulty

During the first phase, participants reported on linguistic difficulties as stress factors. These findings are tabled as follows:

Participant A	Participant B	Participant C	Participant D	Participant E	Participant F
		Discourse density	text complexity		lexical variation
		Comprehension difficulty			Lag time ¹⁶

Table 10: Participants' identified linguistic difficulties

Participants suggested possible ways to mitigate the stress levels during a live newscast. Their recommendations are tabled below as follows:

Participant A	Participant B	Participant C	Participant D	Participant E	Participant F
More time to prepare adequately	Raising the professional status of South African Sign Language interpreters ¹⁷	Punctuality to allow time for a technical check	Assigning two interpreters to a live newscast ¹⁸	Limited technical problems, sound and lights and camera	Access to material to prepare

²“I have a lag time and the programme is cut before I finish my sentence.”

³The crew should consider the interpreter as important as the newsreaders; interpreters are news reproducers

⁴The interpreter who is not “on air” will be assigned to guide, give advice and monitor the output of the working interpreter, which will improve the quality of the target discourse and lessen the stress levels of the interpreter on camera.

	Limiting noise levels in studio				Including interpreters in the editorial process
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Table 11: Participants' report on mitigating cognitive load

In summary, participants explained that public expectation, exposure and vulnerability caused by a lack of control are some of the most eminent difficulties of television interpreting (cf. Chapter 2.11).

5.4 The importance of preparation taught during formal training

During the first phase of data collection, participants were also asked about their general understanding of preparation. Napier (2005) explains that expert simultaneous signed language interpreters can be viewed as those who show a high level of language complexity skill, have vast general world knowledge have knowledge of discourse structure and have problem solving and visual representation skills, all of which are cognitive functions. The study therefore assumes that specialised training forms an essential part of mitigating cognitive load and would provide the interpreter with additional skills to cope specifically in a high demand, low control environment such as television. None of the participants were specifically trained in television interpreting, owing to situation that interpreters in South Africa are yet to specialise in specific fields. Participants B, C, E and F were formally trained in interpreting and translation and acknowledged the importance of preparation. According to participants B, C, E and F preparation skills should form part of simultaneous interpreter training to include the following:

- discourse/text analysis
- comprehension skills
- the importance of background knowledge

The section below summarises each participant's exposure to formal training and understanding of preparation as means to mitigate cognitive load as follows:

Participant A instinctively knows the importance of source text comprehension, without having had any formal interpreting and translation training. Participant B formed part of the first interpreting training group, trained in 1997 at the University of the Free State. Although preparation was highlighted, neither discourse analysis nor text analysis was taught. Participant C believes that adequate preparation is important to mitigate the cognitive load, and learned consecutive interpreting

and basic note-taking principles. Participant C's training at the University of the Witwatersrand also included text analysis as part of the B.A Honours in Interpreting and Translation degree. Participant D acknowledges the importance of preparation although the participant has received no formal training in interpreting and translation. Participant D believes that preparation techniques are acquired through on the job practice. Participant E received formal training in SASL interpreting and translation at the University of the Witwatersrand at postgraduate level and believes that translation principles assist the interpreter to adequately prepare. Participant F has never been taught television interpreting specifically, but the importance of preparation in both South Africa and abroad has always been highlighted. Participant F listed preparation factors as follows:

- a. Establishing the nature of assignment and skills-match
- b. Using various online resources such as YouTube, Google and other professional sites for subject specific jargon
- c. Building a terminology bank for reference of specific concepts or signs
- d. Establishing a network of mentors and consultants to provide vocabulary when needed
- e. Knowledge
- f. Contextualization
- g. Rapid analysis
- h. Cohesion
- i. Subtlety of expression
- j. The use of correct terminology for Deaf viewers

Phase One, presented the quantative and qualitative findings as obtained from the written questionnaire. The next section presents the data of Phases Two and Four, before presenting Phase Three that comprise observed preparation strategies from participants

5.5 Phase Two and Phase Four

This section presents Phases Two and Four of the data collection process. After completing the written questionnaire in Phase One, participants were asked to deliver an interpretation without any prior preparation in Phase Two. In Phase Three, participants were given an opportunity to prepare the source text before delivering a second interpretation on camera which constituted Phase Four. The two target language messages of each participant, obtained during Phases Two and Four, were compared against the framework of Volkova and Zubenina's (2015) discourse and communication translation model to determine the most dominant adaptation approach. This was conducted without any assumption that the participants had any knowledge of this model. No mention of theoretical framework was made to the participants. Before any observation of translation shifts could

commence, the source text was analysed against Volkova and Zubenina's (2015) methodology and is presented in the next section.

5.5.1 Source text analysis



Figure 17: Prince Charles (www.businessgreen.com)

The source text chosen for the purpose of this study is a keynote address by the Prince of Wales during the opening of the Conference of the Parties (COP) 16 in Paris in 2015. The source text is complex, written to be read aloud in a formal international conference setting and makes reference to the global situation of the refugee crisis from Western Africa into Europe as follows:

“It threatens our ability to feed ourselves; to remain healthy and safe from extreme weather; to manage the natural resources that support our economies, and to avert the humanitarian disaster of mass migration and increasing conflict.”

For analysis purposes it is important to take the context and time at which the speech event occurred, into consideration. The speech was made shortly after a series of terror attacks where three suicide bombers struck outside the *Stade de France* in *Saint-Denis*, followed by several mass shootings and a suicide bombing, at cafés and restaurants. The Prince of Wales begins his keynote address by expressing his sincere condolences to Parisians who were still coming to grips with the aftermath of terrorism that killed 130 people and injured scores of civilians as evident in his statement below:

“May I just begin by expressing my profound horror at what happened in Paris two weeks ago, together with untold sympathy for the grieving families and loved ones of those whose lives were so brutally extinguished.”

The next section discusses some excerpts of the source text that meet both pragmatic and sociocultural criteria on textual level, discursive level and communicative level based on Volkova and Zubenina's (2015) methodology:

The following are examples from the source text that meet the pragmatic criteria of lexical and semantic parameters on textual level. This example shows the author's pragmatic intentions, which may hinder the translation process and appear strange to the target message receiver:

"It threatens our ability to feed ourselves; to remain healthy and safe from extreme weather; to manage the natural resources that support our economies, and to avert the humanitarian disaster of mass migration and increasing conflict."

"*It threatens our ability*", is one semantic parameter that, if translated directly, would not make sense in the target language, and would appear strange to the receiver. The same applies to the semantic parameters; "*manage natural resources*" and "*avert humanitarian disaster*".

"May I just begin by expressing my profound horror at what happened in Paris two weeks ago, together with untold sympathy for the grieving families and loved ones of those whose lives were so brutally extinguished?"

"*May I just begin*", is a culture specific expression in English that does not explicitly request permission, instead it is a form of politeness. This form of politeness does not apply to the target language and would seem very strange to the receiver.

"My heart is with the courageous French people in their hour of anguish".

The above excerpt hosts an array of translational problems to the interpreter. "*My heart is with*", a colloquial expression would not make sense in the target language, nor would "*hour of anguish*."

The following are examples from the source text that meet the sociocultural criteria on textual level. – These include idiomatic expressions and play upon words that may not be easily understood in the target language if the interpreter does not provide additional information.

"Your deliberations over the next two weeks will decide the fate not only of those alive today, but also of generations yet unborn."

Stylistic devices such as; antithesis (alive, unborn) and parallelism (not only, but also), used for poetic effect, are not easily transferred to the target language.

“Your deliberations over the next two weeks will decide the fate not only of those alive today, but also of generations yet unborn.”

The use of the metaphor “*your deliberations will decide*” is problematic in the translation process.

“So I can only urge you to think of your grandchildren, as I think of mine, and of those billions of people without a voice; those for whom hope is the rarest of sensations; those for whom a secure life is a distant prospect.”

The above excerpt holds a number of challenges to the interpreter, who has to overcome the translational difficulty of metaphors (“people without a voice”, “hope is the rarest of sensation”, “a secure life is a distant prospect”) and parallelism (“you to think, as I think”).

The following are examples from the source text that meet the pragmatic criteria on textual level such as, -syntactic peculiarities of the source text, which include marked thematic structures and rhetorical questions.

“On an increasingly crowded planet, humanity faces many threats – but none is greater than climate change”.

The above excerpt is an example of a marked thematic structure, used to create emphasis. Instead of humanity faces many threats on a crowded planet, the speaker produces a marked thematic structure.

“Why, then, when it comes to climate change is this apparently no longer applicable?”

The above excerpt is an example of rhetorical questions, used to create audience involvement.

The following are examples from the source text that meet the sociocultural criteria on a textual level, which entails pronouns in the source text that may not correlate with that of the target language. Excerpts from the text below indicate specific pronouns such as “it” and “this” that do not match with that of the target language:

“It magnifies every hazard and tension of our existence.”

“It threatens our ability to feed ourselves;”

“It is the premium we need to pay for our collective, long-term insurance policy”

“Why, then, when it comes to climate change is this apparently no longer applicable?”

The following example from the source text meets the pragmatic criteria on Textual level: and – includes grammatical parameters of the source text, which may seem unusual for the target audience.

“On an increasingly crowded planet, humanity faces many threats – but none is greater than climate change”.

In the above excerpt, a comparative expression is used to express a superlative i.e. “the greatest threat”, which if translated directly, would seem very strange to the target audience.

“If, at last, the moment has arrived to take those long-awaited steps towards rescuing our planet”

The expression “*long awaited steps towards*” is one example of source text grammatical parameters which are unusual for the target language.

The following are examples from the source text that meet the sociocultural criteria on textual level: that includes cultural realia that don’t exist in the target language.

“We are always hearing, nowadays, that all our actions must be based on “good science”.”

The concept “good science” is seldom accessed by the Deaf community in South Africa and the inference is lost if not explicitly paraphrased in the target language.

“Ladies and Gentlemen, as the Executive Secretary has just said, rarely in human history have so many people around the world placed their trust in so few.”

“Placing one’s trust” is a fixed English expression, which has not been adopted in South African Sign Language.

“For our today they should give up their tomorrow.”

The inference antithesis created and reference to the well-known poem: “*They give their today*” vs. “they give up their tomorrow” are elements lost to the target audience if not made explicit. The following are examples from the source text that meet the pragmatic criteria on textual level, such as–stylistic devices metaphors, similes, proverbs, parallelism, etc. Some examples of metaphors, similes and analogies from the source text are tabled below as follows:

“The whole of Nature cries out at our mistreatment of Her.”

“In damaging our climate, we become the architects of our own destruction.”

“If the planet were a patient, we would have treated her long ago.”

The following example from the source text meets the sociocultural criteria on textual level—such as lexical items that reflect social and cultural peculiarities of the source text.

“I am enormously touched to have been invited by President Hollande to say a very few words at the start of this crucially important conference”

The concept of understating, as the speaker says he is here to say a few words, is foreign to the target audience members. According to Deaf culture, the very important speaker is delivering the crucial keynote address to open the conference and it would in fact be inappropriate to only say a few words. According to an English culture, the speaker understates his importance as a form of politeness and to give impetus to the important conference.

The following examples from the source text meet pragmatic and sociocultural criteria on a discursive level as tabled below:

Discursive level	
Pragmatic criteria	Sociocultural criteria
Goal of discourse.	Implicit or explicit culture-specific values of a source discourse.
1. Persuasive, emotive.	1. Most of all, I urge you to consider the needs of the youngest generation, because none of us has the right to assume that “for our today they should give up their tomorrow.” - Reference to British poet John Maxwell Edmunds 1916 – “They gave their today”.

Table 12: Discursive level analysis

Below are source text elements that meet pragmatic and sociocultural criteria:

Communicative level	
Pragmatic criteria	Sociocultural criteria
Function of communication – emotional and informative and persuasive.	Intertextual elements of a source text which appear unusual or unfamiliar to the target audience.
1. Use of rhetorical questions.	1. Idioms
2. Emotive expressions.	2. Word play
3. Inference	3. Inference

Table 13: Communicative level analysis

The source text analysis, drawn from Volkova and Zubenina’s (2015) proposed methodology, identified 137 textual elements.

5.5.2 Translation approach as initial norm

The research study set out to determine the dominant translation adaptation approach each participant implemented and to identify a clear shift in translation approaches and compared both the unprepared and prepared target language messages. The participants' target discourses were transcribed in the form of a basic gloss using ELAN, and shifts were annotated to document the different socio-cultural and/ or pragmatic translation strategies used, as discussed in Chapter Two (cf. Volkova and Zubenina2015). 137 source text elements based on Volkova and Zubenina's (2015) methodology that warrant a sociocultural and/or pragmatic adaptation were recorded and participants' translation strategies of every text element was matched against the two adaptation approaches. By identifying which strategic framework the interpreter implemented most, the dominant approach was identified and categorised as initial norm Appendix One, Two and Three provide a detailed analysis.

The most observed strategy participants used to interpret metaphors was either explicitness change or interpreting the original notion of the source text.

The most commonly used strategies participants implemented to deal with the shift in antithesis were: translation by paraphrase, translation of the original notion and explicitness change.

After the comparative analysis of 137 text elements between unprepared and prepared target discourses, the dominant translation adaptation approach participants implemented respectively was established and is tabled below:

Unprepared			Prepared	
Participant	Sociocultural approach	Pragmatic	Sociocultural approach	Pragmatic
A	79	58	24	113
B	84	53	29	108
C	62	75	45	92
D	95	42	48	89
E	58	79	63	74
F	83	54	52	85

Table 14: Shifts in translation approach

During the unprepared rendition of the target language, each participant (except for participant A) implemented a sociocultural adaptation. After preparing however, the sociocultural adaptation shifted to pragmatic adaptation. Below is the mathematical equation used to calculate the dominant approach.

Calculation: Unprepared $\frac{X}{Y} \times 100\% = A$ Prepared $\frac{X}{Y} \times 100\% = B$ $A - B = \text{difference}$ $X = \text{total amount of strategies meeting criteria}$ $Y = 137$

Equation 4: Socio-cultural and pragmatic ratio

Below follows a percentage breakdown of the ratios calculated between sociocultural adaptation and pragmatic adaptation:

Participant	Unprepared Socio-cultural : Pragmatic adaptation	Prepared Socio-cultural: Pragmatic adaptation
A	58% : 42%	17% : 83%
B	61%: 39%	21% : 79%
C	46%: 54%	32% : 68%
D	69%: 31%	35% : 65%
E	42%: 58%	46% : 54%
F	61%: 39%	38% : 62%
Average	56% : 44%	32% : 68%

Table 15: Ratio difference between adaptation approaches

To determine the percentage difference between each participant's dominant and subordinate translation adaptation approach, the subordinate percentage figure was deducted from the dominant percentage to determine the average shift difference of the participant's initial translation norm in both unprepared and prepared interpretations. Participants A, B, D implemented a sociocultural adaptation approach in their unprepared target discourse, whereas a pragmatic adaptation approach is

evident in both participants C and E's rendition. In the unprepared rendition, participant A shows a 16% implementation of sociocultural adaptation, participant B a 22% and participant F 12%. Participant D shows the greatest implementation of sociocultural adaptation with 38%. The shift towards a pragmatic adaptation approach shows participant A with 66% shift in the prepared target discourse. Both participants C and F's show an average shift of 36% towards a pragmatic approach, and participant D a 30%. Participant B shows the highest rate at 71%, and participant E the least with only 8%. Shifts in translation approaches are summarised in the table below:

Participant	Sociocultural adaptation dominance in unprepared discourse	Pragmatic adaptation dominance in prepared discourse
A	16%	66%
B	22%	58%
C	8% dominance towards pragmatic adaptation	36%
D	38%	30%
E	16% dominance towards pragmatic adaptation	8%
F	22%	36%

Table 16: Shifts in translation approach

Based on the analysis, interpretation and translation process of the source text warrants 36% pragmatic adaptation dominance if calculated using the median obtained from the results.

5.5.3 Production norms and expectancy norms - expansion features

Chapters Two and Three discuss the expectancy norm of native-like accents. This section of the study analysed each participant's application of expansion features (Lawrence 1995) in both unprepared and prepared renditions of the target language message. By comparing the difference in application of expansion features, the study aimed to report on the differences in pragmatic competency before and after preparation of the source text. Although Lawrence (1995) does not separate the use of space, this study divided space into two categories: topographic and syntactic space. Topographic space was analysed by identifying linguistic and lexical markers used to create a representational map of the source text. Lexical markers that created the movement between the topographic markers were categorised as syntactical space. This is illustrated below:

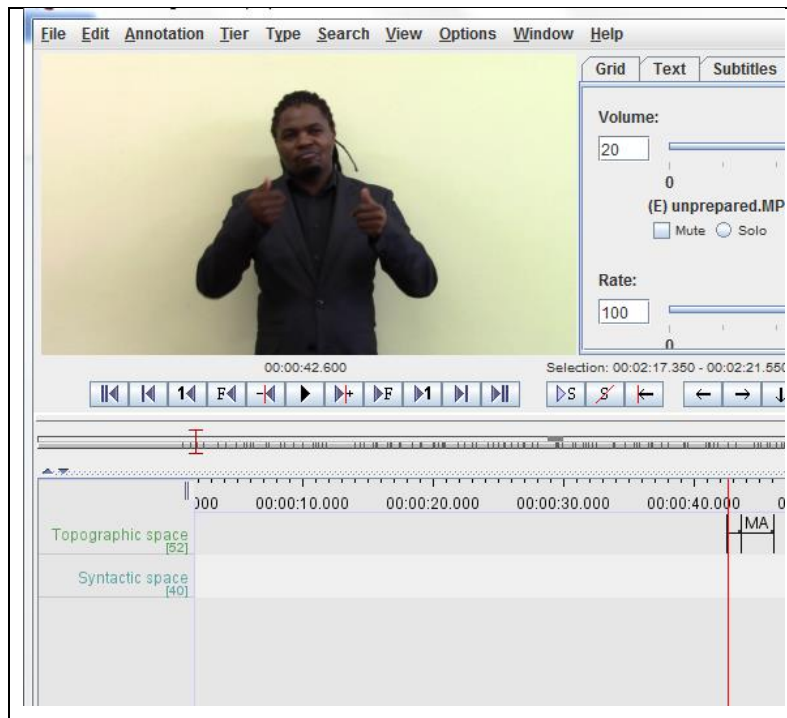


Figure 18: Example of tier labels; topographic space and syntactic space

Each participant's use of expansion features was counted and compared against the total observed during the unprepared and prepared renditions. Increase in the use of expansion features between unprepared and prepared renditions of the target discourse were calculated using the following mathematical calculation:

$$X/Y \times 100\% = Z$$

$$100 - Z = \text{Average difference}$$

X = Unprepared total use of expansion feature
Y = Prepared total use of expansion feature

Equation 5: Average difference between unprepared and prepared

5.5.3.1 Topographic space

Each participant's use of space was analysed in relation to the topographic placement of lexical items during the first and second renditions of the target discourse. Lexical markers that aided in the representational map creation were counted and annotated in ELAN. Although the coding of topographical space markers may be interpreted differently, the researcher identified lexical markers

that display visual representation of the source text in the target language message. The images below indicate some differences observed:

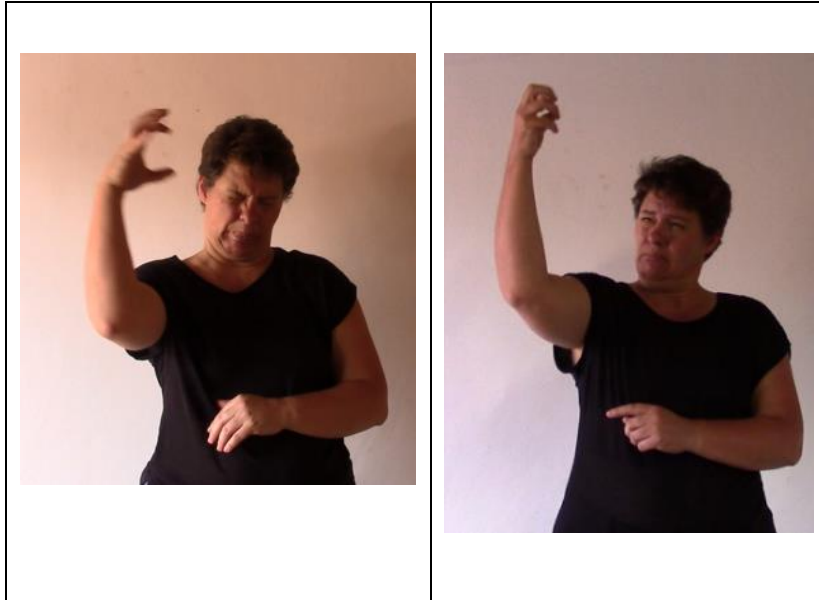


Figure 19: Unprepared – Sun

Figure 20: Prepared – Sun

The example above shows that topographical space was better utilised in the second interpretation; the participant signed “sun” further above in the prepared interpretation in a better relation to where the sun is situated relative to the context.

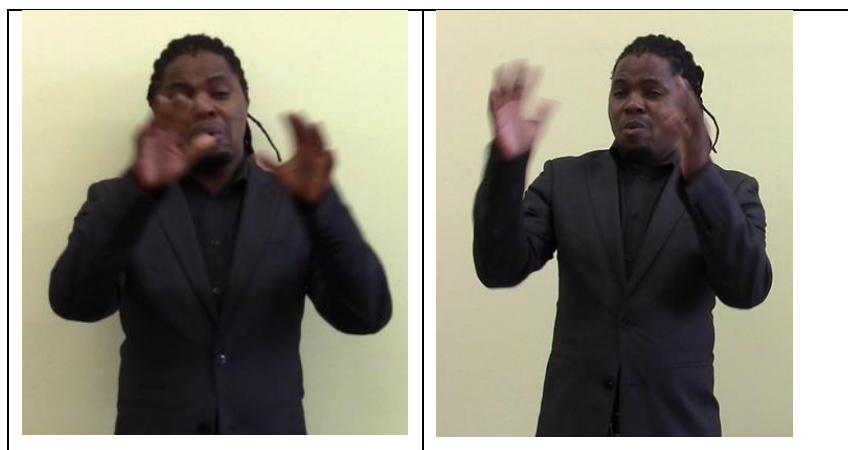


Figure 21: Unprepared – World

Figure 22: Prepared – World

The example above shows that topographical space was better utilised in the second interpretation; the participant signed “world” further away from his body in the prepared interpretation in a better relation to his discourse structure and mental representation, referring to the world and the atmosphere around it, therefore clarifying the use of space to a representational map of the real world.

Participant’s use and implementation of topographic space during prepared and unprepared target language messages were observed and counted as tabled below:

Participant	Unprepared	Prepared	Increased use of space
A	14	19	26%
B	20	28	29%
C	89	126	30%
D	21	33	36%
E	52	66	22%
F	54	78	31%
		Total average increase	30%
Median	37	50	
Average percentage increase based on median = 26%			

Table 17: The use of topographic space

The bar graph below indicates the average increase of each participant and observes that participant D showed the highest increase in implementation of topographic space between unprepared and prepared target language messages:

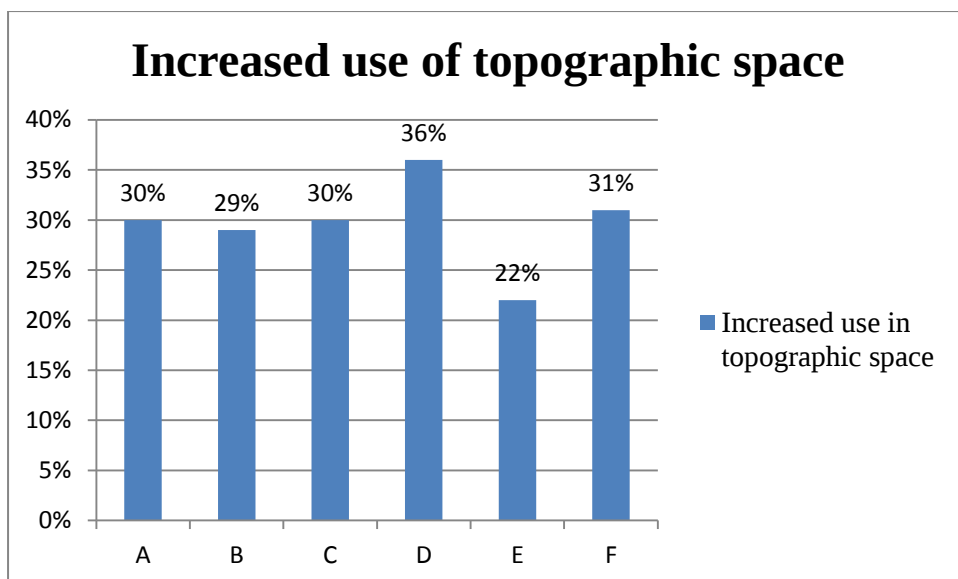


Figure 23: Increased use of topographic space

5.5.3.2 Syntactic space

Images below give some visual indication of each participant's perception difference and placement of directional verbs that were annotated as syntactic space.

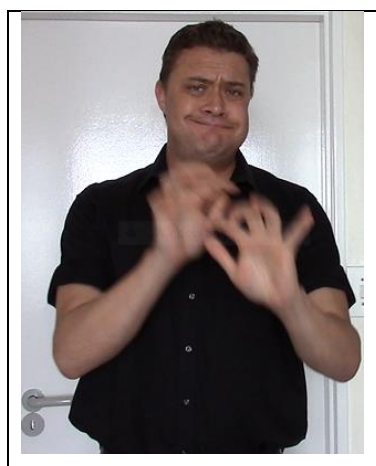


Figure 24: Syntactic space: Migration - people move towards

This semantic unit is interpreted as syntactic space, based on adverbial movement between proper nouns in context to the discourse. It is important to note that facial expression is not syntactic space,

however, the above example reveals that facial expression, successfully implemented, aids the construction of an adverbial phrase: “Mass migration”.

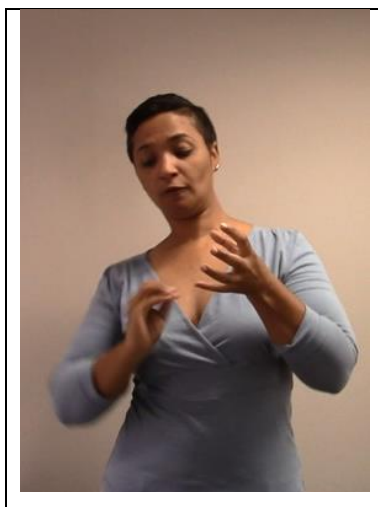


Figure 25: Syntactic space: Fixing the climate

A compound sign in which the participant’s dominant hand produces the verb (the sign “to fix”) and the non-dominant hand serves as classifier of the noun – world.

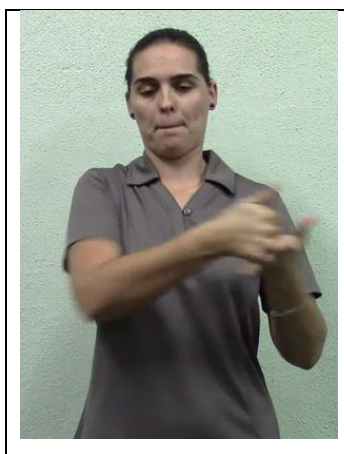


Figure 26: Syntactic space: To help

The directional verb moves towards the object requiring help

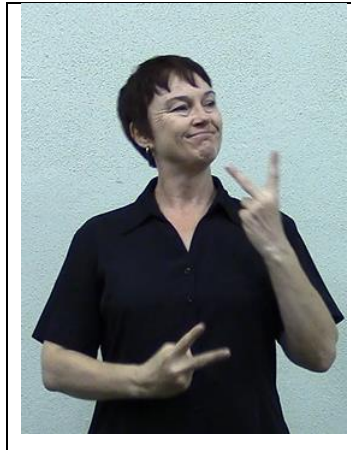


Figure 27: Syntactic space: To look

This is also an example of an adverbial phrase: “To look at the world in dismay.”

The use of syntactic space observed is tabled below:

Participant	Unprepared	Prepared	Increase in the use of syntactic space
A	42	54	78%
B	26	57	54%
C	62	87	29%
D	51	60	15%
E	40	43	7%
F	39	74	48%
		Total average improvement on space	38%
Average median	41	59	31% median difference

Table 18: The use of syntactic space

The bar graph below indicates the average increase of each participant and observes that participant A showed the highest increase in implementation of syntactic space between unprepared and prepared target language messages. Participant E showed the least overall increase in the implementation of syntactic space as an expansion feature (Lawrence 1995).

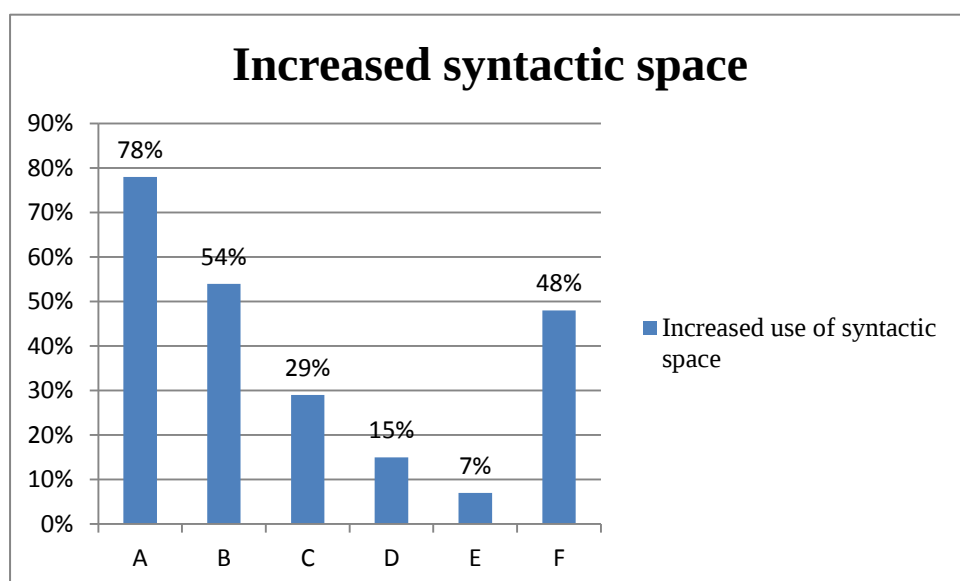


Figure 28: Percentage increase in syntactic space

5.5.3.3 Reiteration

The use of reiterated lexical items was counted to determine the implementation of reiteration as expansion feature (Lawrence 1995) during the analysis phase. The image below is an example of the lexical item “less” that was repeated during the production of the target language message. Refer to Appendix B 1 for examples on the analysis of reiteration as expansion feature.

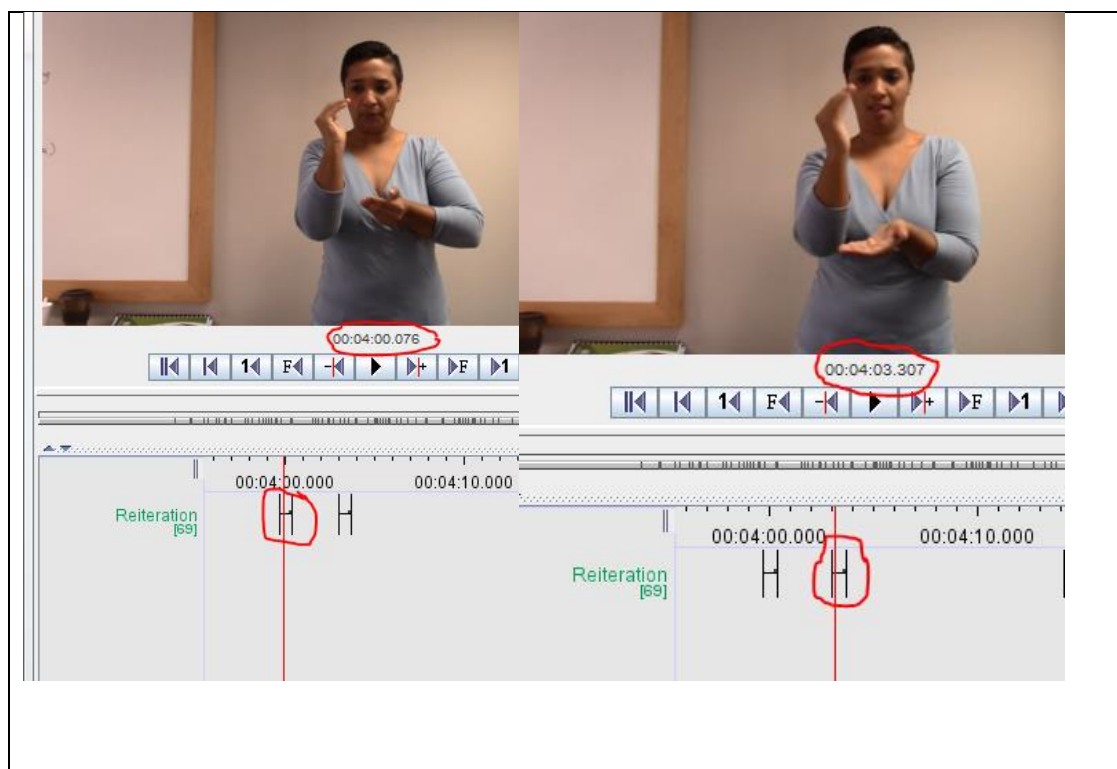


Figure 29: Reiteration, lexical item – less

The observed use of reiteration is tabled below:

Participant	Unprepared	Prepared	Increased usage of reiteration
A	19	32	41%
B	13	13	0%
C	76	103	26%
D	35	42	17%
E	32	35	8%
F	53	69	33%
		Total average improvement of reiteration	21%
median	34	39	13 % median difference

Table 19: Use of reiteration

The bar graph below indicates the average increase of each participant's use of reiteration and observes that participant A showed the highest overall increase as calculated between unprepared and

prepared target language messages. Participant B however showed no increase in the use of reiteration as an expansion feature (Lawrence 1995).

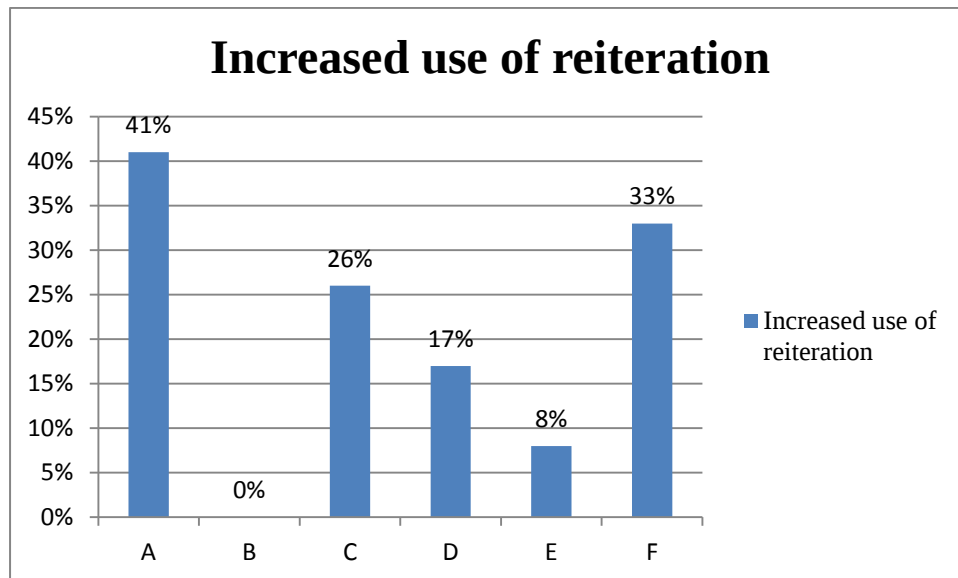


Figure 30: Percentage increase use of reiteration

5.5.3.4 Contrasting

The use of contrasting as expansion feature (Lawrence 1995) was counted during the analysis phase. Although contrasting can be linguistically categorised as rhetorical questions, the expansion feature refers to the conceptual expression by stating what something is not, followed by what it is or should be. This is often done through the use of rhetorical questions in South African Sign Language. The image below is an example of contrasting implemented during the production of the target language message. For examples of contrasting as expansion feature, please refer to Appendix B2.

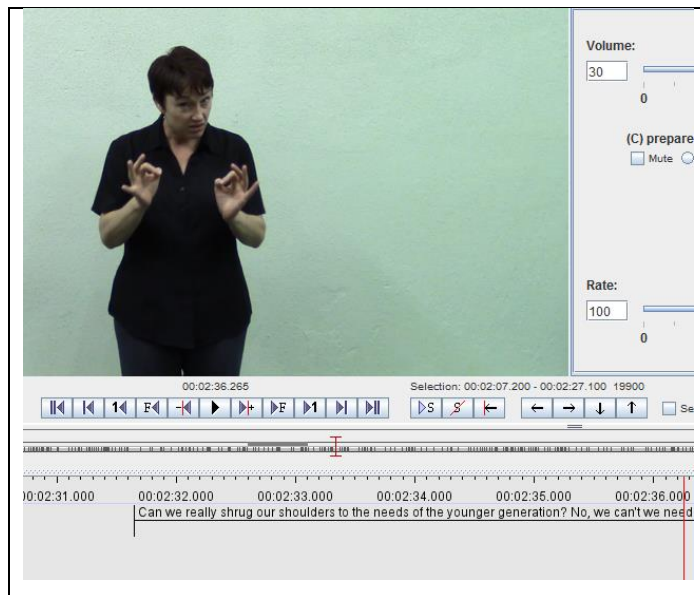


Figure 31: Example of contrasting

Participants' use of contrasting is tabled below:

Participant	Unprepared	Prepared	Percentage increase in the use of contrasting
A	1	3	77%
B	2	3	33%
C	2	11	82%
D	1	2	50%
E	2	4	50%
F	7	11	36%
		Total average improvement in the use of contrasting	55%
Average median	2	4	50 % median difference

Table 20: Observed use of contrasting

The bar graph below indicates the average increase of each participant's use of contrasting and observes that participant C showed the highest overall increase as calculated between unprepared and prepared target language messages. Participant B showed the least increase in the use of contrasting as an expansion feature (Lawrence 1995).

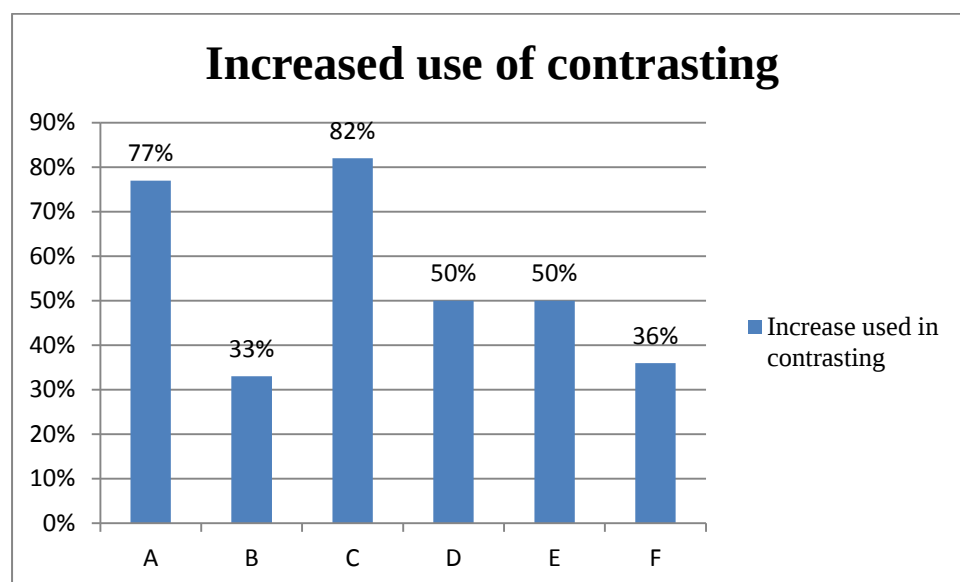


Figure 32: Percentage increase use of contrasting

5.3.3.5 Use of faceting

The use of faceting as expansion feature (Lawrence 1995) was counted during the analysis phase. The image below is an example of faceting implemented during the production of the target language message. Refer to Appendix B 3 for detailed examples of analysis.

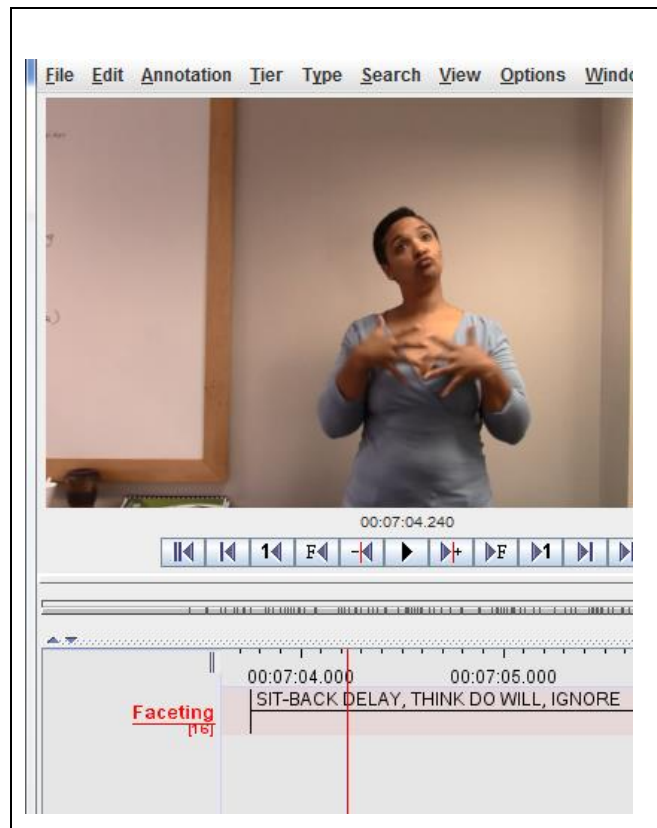


Figure 33: Example of faceting

The observed recurring use of faceting as expansion feature is tabled below:

Participant	Unprepared	Prepared	Percentage increase in the use of faceting
A	4	6	33%
B	5	8	38%
C	8	14	43%
D	3	6	50%
E	4	6	34%
F	8	16	50%
		Total average improvement of reiteration	41%
Average median	4	7	43 % median difference

Table 21: Use of faceting

The bar graph below indicates the average increase of each participant's use of faceting and observes that participant D and F showed the highest overall increase as calculated between unprepared and prepared target language messages. Participant A showed the least increase in the use of faceting as an expansion feature (Lawrence 1995).

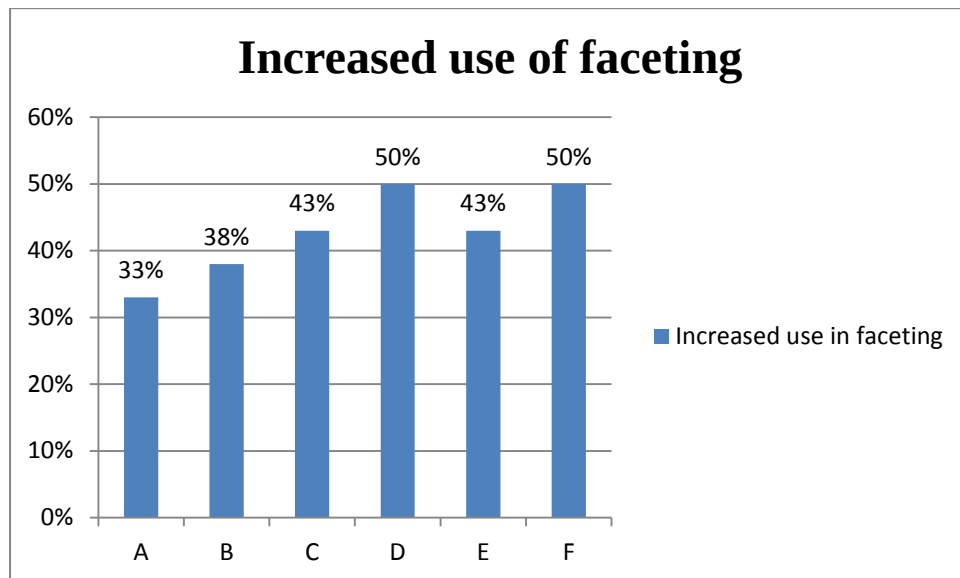


Figure 34: Percentage increase use of faceting

5.5.3.6 Explain by example

The use of explain by example as expansion feature (Lawrence 1995) was counted during the analysis phase. The image below is an example of explain by example that was implemented during the production of the target language message. Refer to Appendix B 4 for examples of analysis.



Figure 35: Example of explain by example

The observed recurring use of ‘explain by example’ as expansion feature is tabled below:

Participant	Unprepared	Prepared	Percentage increase in the use of explain by example
A	0	8	80%
B	2	4	50%
C	6	9	34%
D	4	7	43%
E	3	3	0%
F	4	4	0%
		Total average improvement of explain by example	35%
Average median	4	6	34 % median difference

Table 22: Explain by example

The bar graph below indicates the average increase of each participant’s use of explain by example and observes that participant A showed the highest overall increase as calculated between unprepared and prepared target language messages. Participant E and F showed no increase in the use of explain by example as an expansion feature (Lawrence 1995).

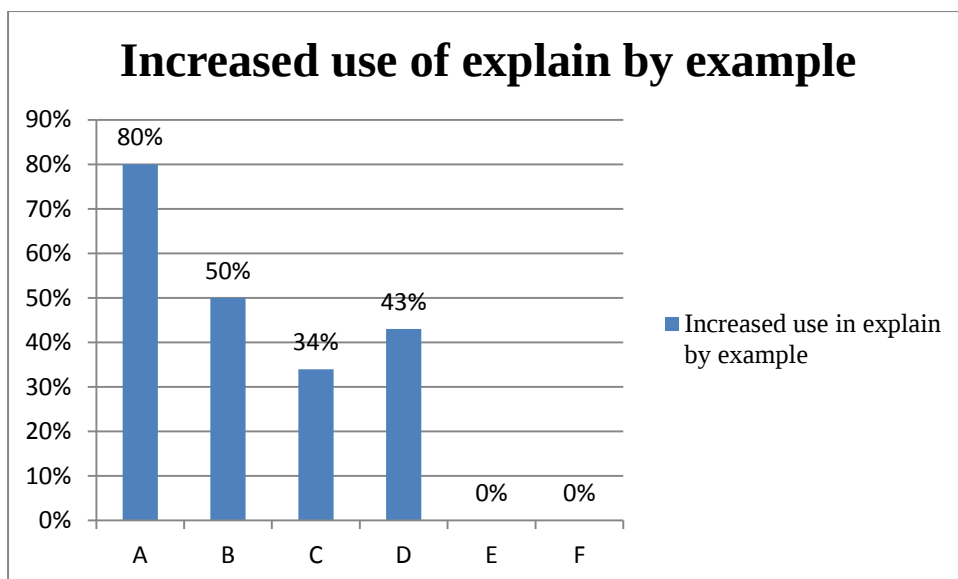


Figure 36: Increased use of explain by example

5.3.3.7 Scaffolding

The use of scaffolding as expansion feature (Lawrence 1995) was counted during the analysis phase. The image below is an example of scaffolding that was implemented during the production of the target language message. Refer to Appendix B 5 for examples of scaffolding analysis.

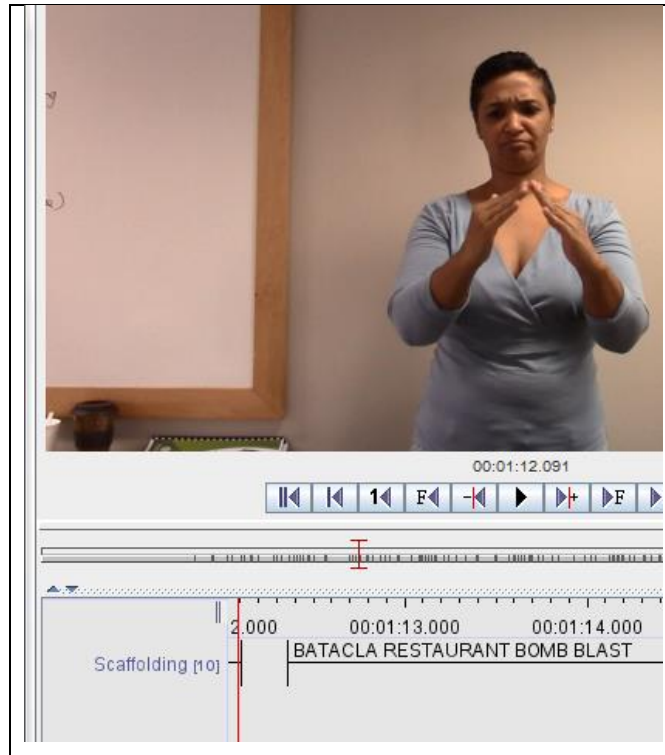


Figure 37: Example of scaffolding

The observed recurring use of scaffolding as expansion feature is tabled below:

Participant	Unprepared	Prepared	Increased percentage of scaffolding
A	5	6	17%
B	3	3	0%
C	5	9	45%
D	6	8	25%
E	2	5	60%
F	9	10	10%
		Total average increase	26%
Average median	5	7	29% average increase

Table 23: Use of scaffolding

The bar graph below indicates the average increase of each participant's use of scaffolding and observes that participant E showed the highest overall increase as calculated between unprepared and

prepared target language messages. Participant B showed no increase in the use of explain by example as an expansion feature (Lawrence 1995).

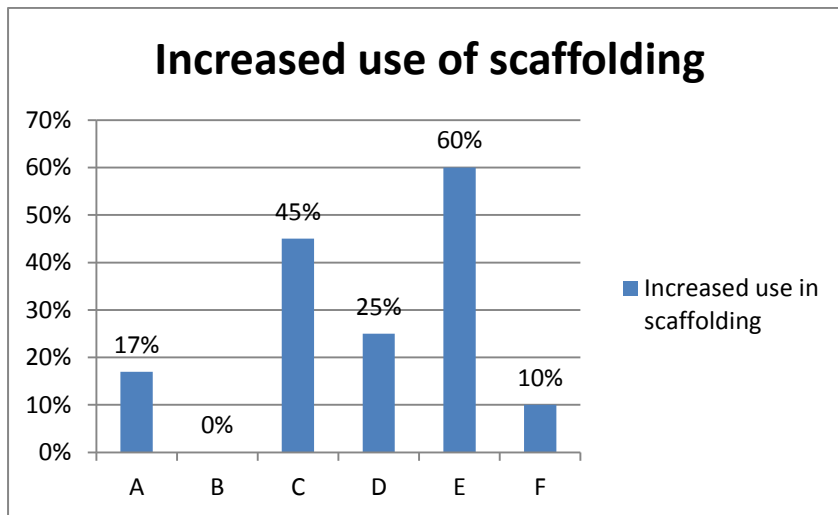


Figure 38: Increase use in scaffolding

5.5.3.8 Describe then do

The use of describe then do as expansion feature (Lawrence 1995) was counted during the analysis phase. The image below is an example of describe then do that was implemented during the production of the target language message. Refer to Appendix B 6 for examples of the analysis.

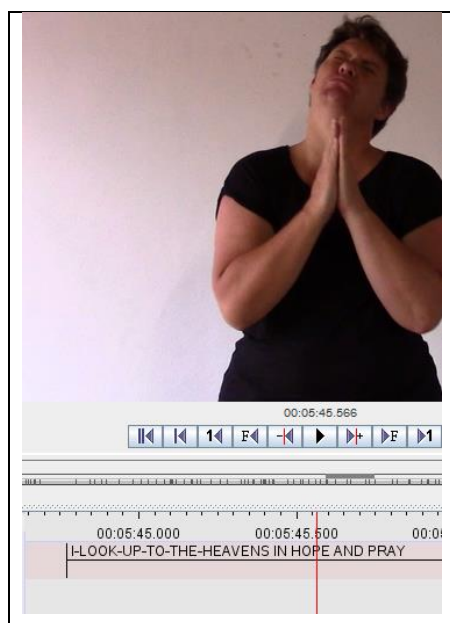


Figure 39: Example of describe then do - to pray

The observed recurring use of describe then do as expansion feature is tabled below:

Participant	Unprepared	Prepared	Increase percentage of describe then do
A	5	8	38%
B	11	22	50%
C	13	15	14%
D	7	9	23%
E	5	7	29%
F	9	17	47%
		Total average increase	34%
median	8	12	34%

Table 24: Use of describe then do

The bar graph below indicates the average increase of each participant's use of describe then do and observes that participant B showed the highest overall increase as calculated between unprepared and prepared target language messages. Participant C showed the least increase in the use of describe then do as an expansion feature (Lawrence 1995).

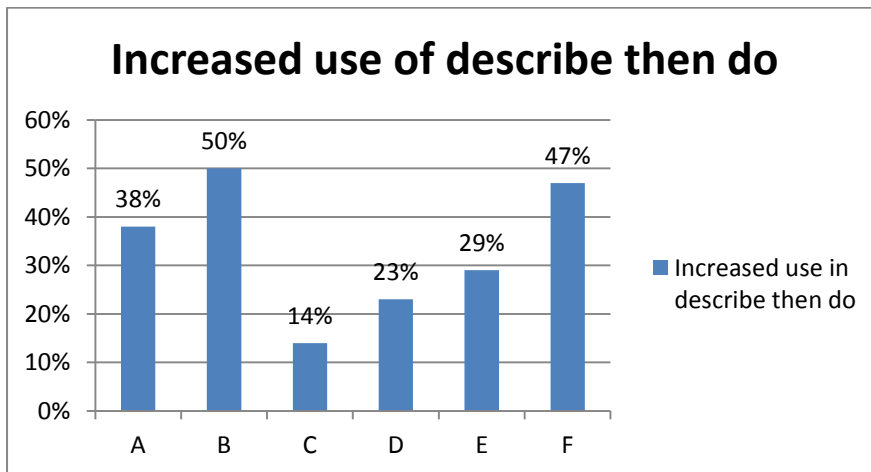


Figure 40: Increased use of describe then do

The bar graph below shows the overall percentage increase of all expansion features that participants implemented. This is followed by a detailed discussion.

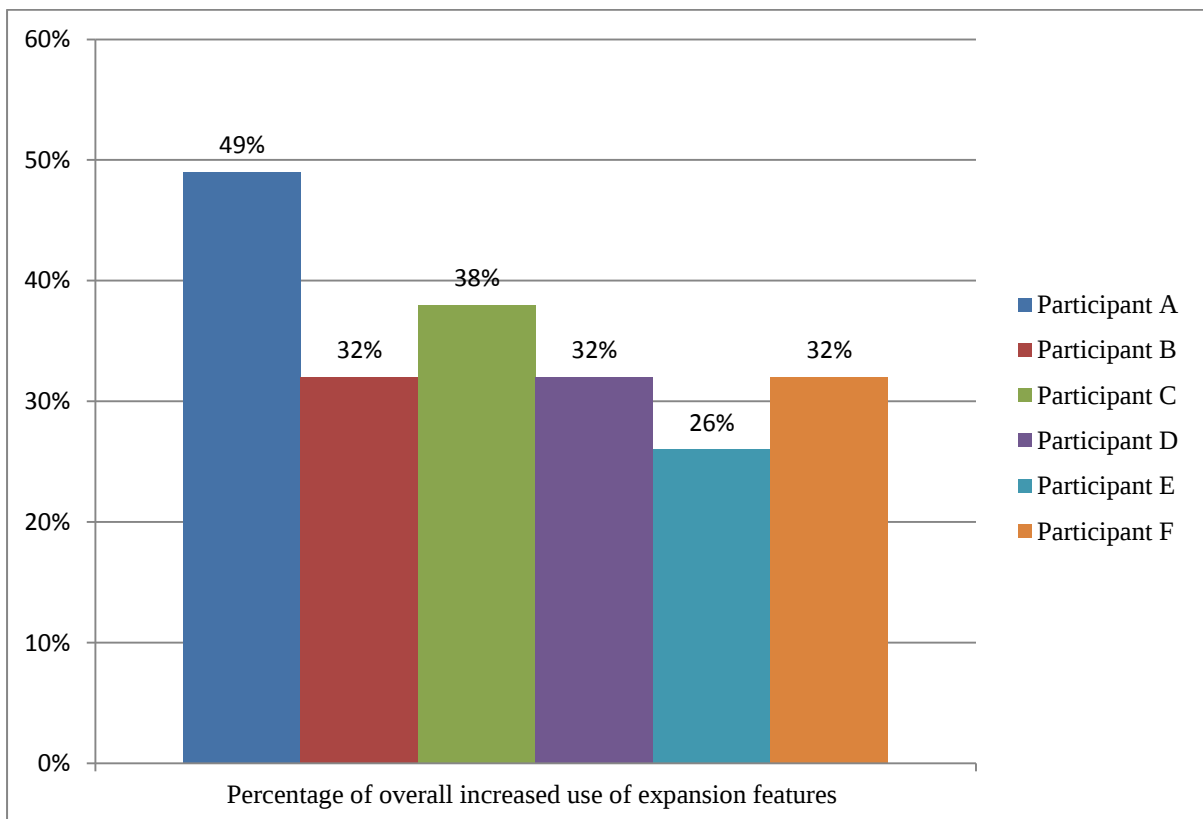


Figure 41: Overall increased use of expansion features

On average, participants used expansion features 32% (calculated by using the median) more when they prepared the target discourse.

Participant A showed the greatest difference between unprepared and prepared target discourse, at 49%. This may be attributable to her the pre-recording background. It is hypothesised that the less the exposure is to live television interpreting and the subsequent lack of experience in implementing emergency strategies to deal with the high demand of the setting, the greater the overall difference is between unprepared and prepared target language message. Participants B, C, D, E, and F are experienced television interpreters and showed a similar trend between unprepared and prepared target text renditions of the source discourse. Participant E showed the least overall percentage improvement, which may be attributed to the language directionality, given that English is the participant's third language and South African Sign Language his second. Language directionality impacted participant E's target discourse from a cognitive perspective. It can be hypothesised that participant E's increased English comprehension effort, negatively impacted language production effort. Participants B, C, D and F showed a similar increase after preparing. This may be attributed to the individual's accreditation status, level of experience and language directionality.

5.6 Lag time

The image below is an example from ELAN of lag time that was measured to document any difference measured between unprepared and prepared target language messages.

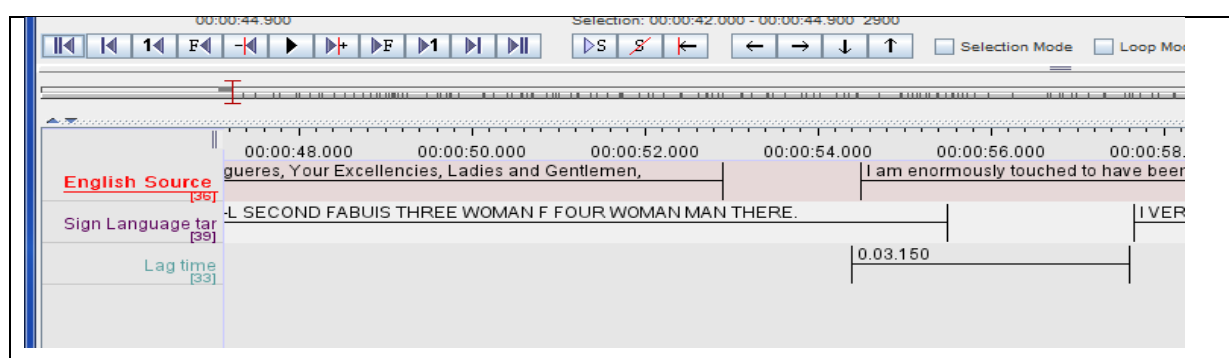


Figure 42: Example of lag time annotation

Participants' memory capacity of handling information in the unprepared and prepared renditions of the target discourse was determined by deducting the starting time code of the source speech from the starting time code of the target language message. The difference and average lag time was calculated from 33 conceptual chunks that were identified in the source text. These chunks were determined by the speaker's pauses. An average lag time was calculated and is presented in the table below:

	Unprepared average lag time	Prepared average lag time	Variance	Summary
Participant A	00:04.609	00:04.449	- 00:00.016	Lag time decreases
Participant B	00:03.960	00:03.339	-00.00.621	Lag time decreases
Participant C	00:05.385	00:07.384	00.01.999	Lag time increases
Participant D	00:03.051	00:03.048	-00.00.003	Lag time decreases
Participant E	00:02.634	00:03.006	00.00.372	Lag time increases
Participant F	00:03.708	00:03.477	-00.00.231	Lag time decreases

Table 25: Time lag calculated

After Participants A, B, D and F prepared, their anticipation improved which resulted in a reduction in time lag. Both participants C and E distributed information more evenly, they knew where to expand and compensate and make effective use of the time lag. In the unprepared rendition of the target discourse, participant C spent a great deal of time explaining "migration" which resulted in a cognitive bottleneck, consequently omitting the chunk of information that followed "mass migration". However, participant C demonstrated the greatest overall lag time efficacy and has the ability to cognitively process large chunks of information, probably attributable to the fact that South African Sign Language is this participant mother tongue. Participant E displayed the least effective usage of overall lag time and found it difficult to process large chunks of information. Based on the expectancy norm in television interpreting of starting and ending with the source discourse speaker, the lag time was also measured at the beginning and ending of each participant's unprepared and prepared target discourse, as presented in the table below:

Unprepared			Prepared	
Participant	Time in	Time out	Time in	Time out (seconds finished)

	(seconds after speaker starts)	(seconds finished after speaker)		after speaker)
A	00:01:500	00: 01: 600	Anticipation by 00:05:650	00:00:900
B	00:03:800	00:04.900	Anticipated by 00:03:00	00:03.400
C	00: 03:900	00:06:00	00:02:200	00:04:500
D	00:02:100	00:01:700	Anticipation by 00:01:200	00:00:800
E	00:02:600	00:03:700	00:02:800	00:02:900
F	00:01:200	00:03:500	00:01:234	00:03:230

Table 26: Time in time out lag time

Results from the table show that after preparation, each participant was able to minimize his/her lag time by either anticipating in the beginning, or starting shortly after the speaker started his speech. Each participant was also able to minimize his/her time, finishing at the end of the speech, therefore mitigating the risk of being cut from camera. This proves the importance of preparation prior in television interpreting to meet the audience's expectation.

5.7 Phase 3 - Preparation

This section presents the data analysis of the third phase. In Phase Three, after the first unprepared recording, participants were given a maximum of an hour to prepare. Evidence collected categorised trends observed from each participant's preparation. : The following trends were observed: source text analysis, the identification of problem triggers, use of translation tools, specific typologies to assist in memory recall, specific language directionality in note taking, glossing and the use of symbols. Each trend is discussed below:

- *Source text analysis*

During the semi-structured interview and self-reflection phase, participants A, B and D, indicated that they instinctively read through the source text with understanding before starting their preparations, despite having had no postgraduate interpreting and translation training. Participant F analysed the source text to identify the rheme and theme of the text before preparing on a separate document. She also circled the key concept for each paragraph.

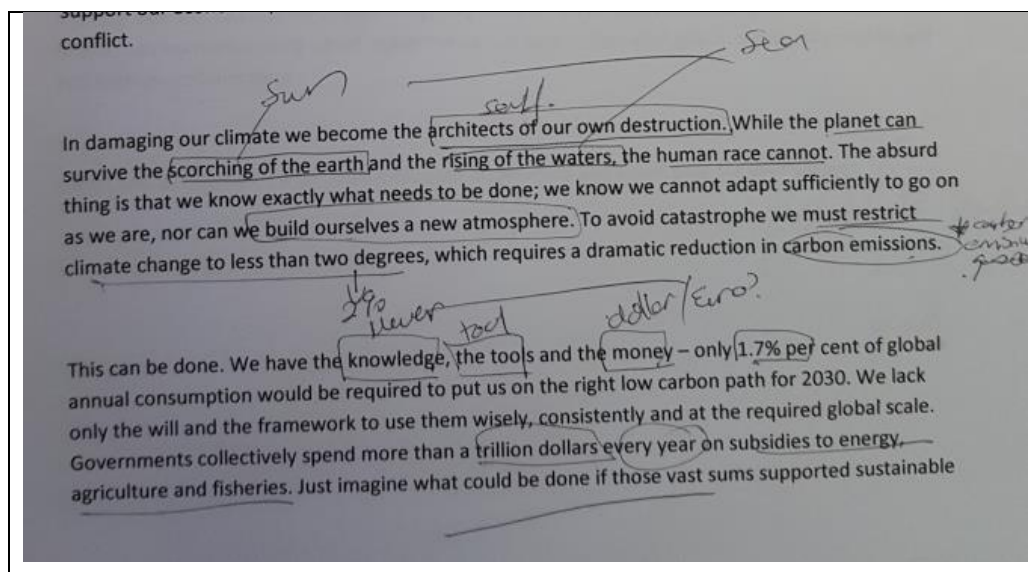


Figure 43: Example of identifying key words and concepts

- Names, places and numbers as problem triggers were identified

All participants identified names of people and places as a problem trigger (cf. Gile 2009, who states that these elements of a text are not contextualized, adding to cognitive strain) and wrote it down to assist in memorizing the correct spelling. Participants explained that they try to avoid finger spelling as far as possible when they interpret on television. This result alludes to the difficulty finger spelling presents given that finger spelled words are often lost to the audience and the interpreting process is slowed down (cf. Chapter 3 Knox 2006; Taylor, Swabey and Gile 2015).

Participant A took special note of the distinct idiomatic use of the language in the source text.

- Translation tools were used

Participant C paid special attention to the comprehension of the source text and used the internet as preparation tool. She google searched the specific roles of each of the names mentioned, such as Minister Pulgar-Vidal, and should time not allow her to finger-spell words she anticipated using their roles instead; for example she would sign Minister of environmental affairs in Peru. Participant C explicitly stated that she used www.dictionary.com to look up unfamiliar words such as circular economy and inertia. During participant D's preparation phase he made a video call to a Deaf person to clarify two signs; Copenhagen and Climate Change.



Sign: Climate



Sign: Change



Sign: Copenhagen

- *Specific typologies were used*

Participant A separated each new concept by drawing a horizontal line between each. Participant B jotted down the concepts horizontally underneath one another. Participant C also separated different concepts by drawing a horizontal line but numbered each important concept and indicated *placement* by aligning it in a different space on the paper. She used listing as coping strategy and indicated it vertically underneath each other.

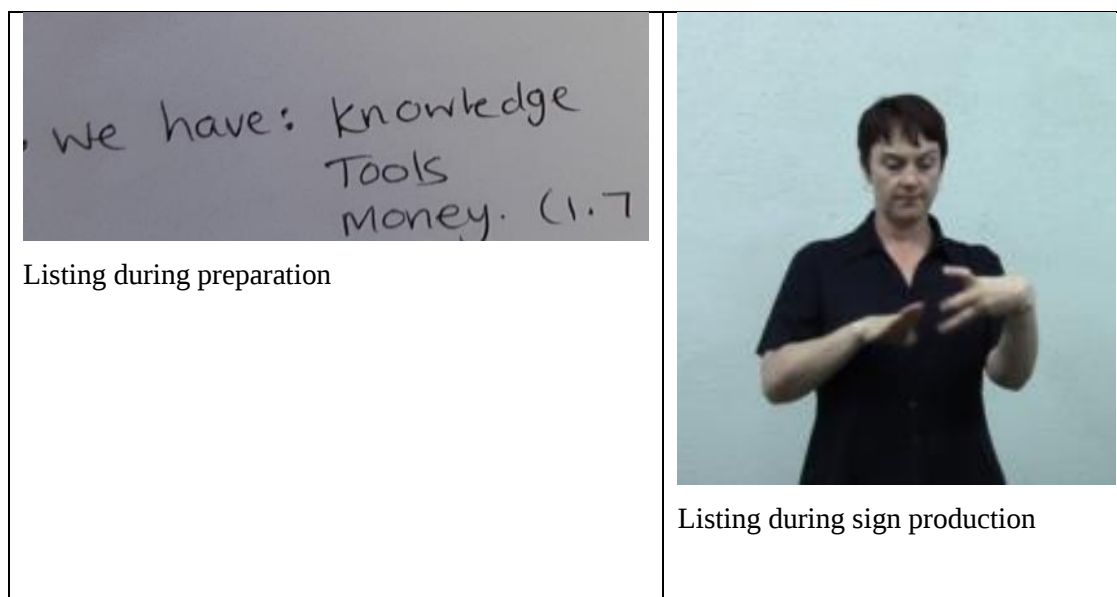


Figure 44: Listing as a preparation strategy

Participant D drew symbols next to each paragraph of the source text to indicate the concept he referred to in his draft preparations. He used a table to group important bits of information into segments vertically underneath one another, highlighting the key concept of each paragraph.

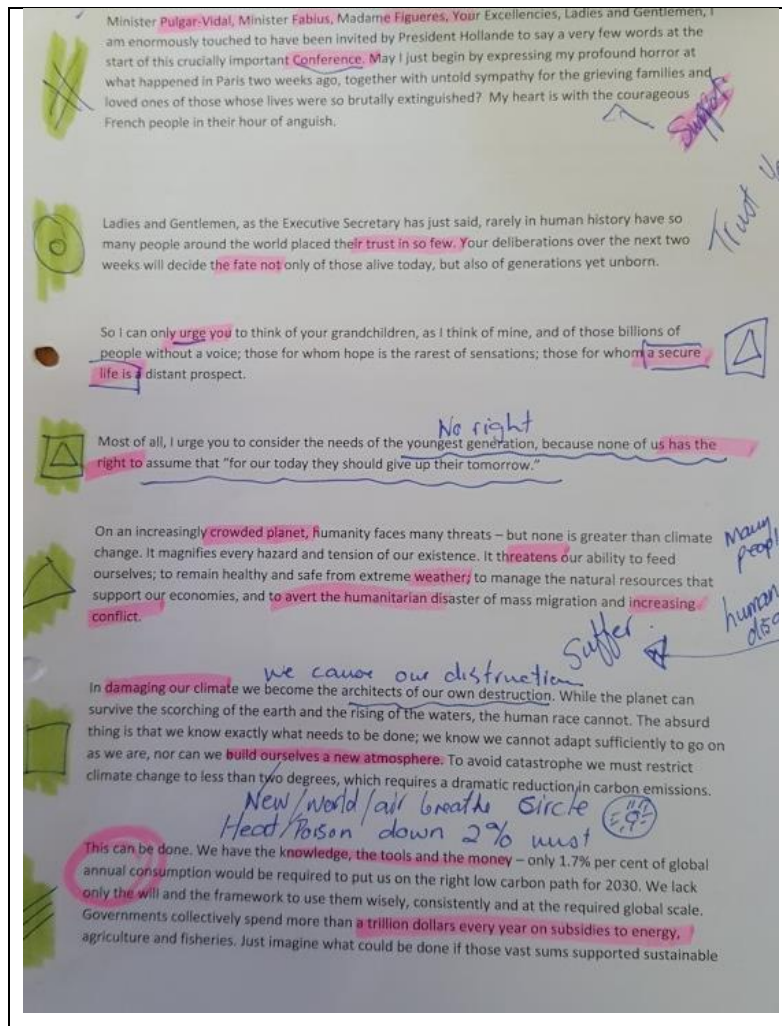


Figure 45: Highlighting key concepts

He also used “listing” as a coping strategy. Participant E opted to transcribe the entire source text in the form of a South African Sign Language gloss. He used numbers underneath sentences to assist in the placement of various nouns. He pointed out that he used this method of preparation dependent on the amount of time at his disposal if time was limited he would draw sketches accompanied by a few key words.

Minister - Vidal
 - Fabius
 - Madame Figueres, Leader.
 Ladies - Gentleman there
 I feel honoured why Pres Hollande
 invite-me important conference - present.
 First me. Paris ~~say~~ sorry why 2 weeks
 worst happened. People last shot - Fam
 then said sorry. ——— ① ②
 I - French people they last suffered but
 courageous - I sympathy.
 Ladies + Gentlemen there. Exec Secretary
 finish said
 Two week you deliberate. that impact
 people only NO - future children there
 impact will
 I encourage you grandchildren future
 bear-in-mind. why I did. ③ you billions
 people here power nothing, they hope
 nothing, They good life want got not.
 Importantly young generation need their
 bear-in-mind. why we live now they tomorrow
 give up no.
 World now people more+++ - people threats
 many but worst what global - weather -
 change.

Figure 46: Preparation in the form of a gloss

Participant F separated each concept by drawing a horizontal beneath it.

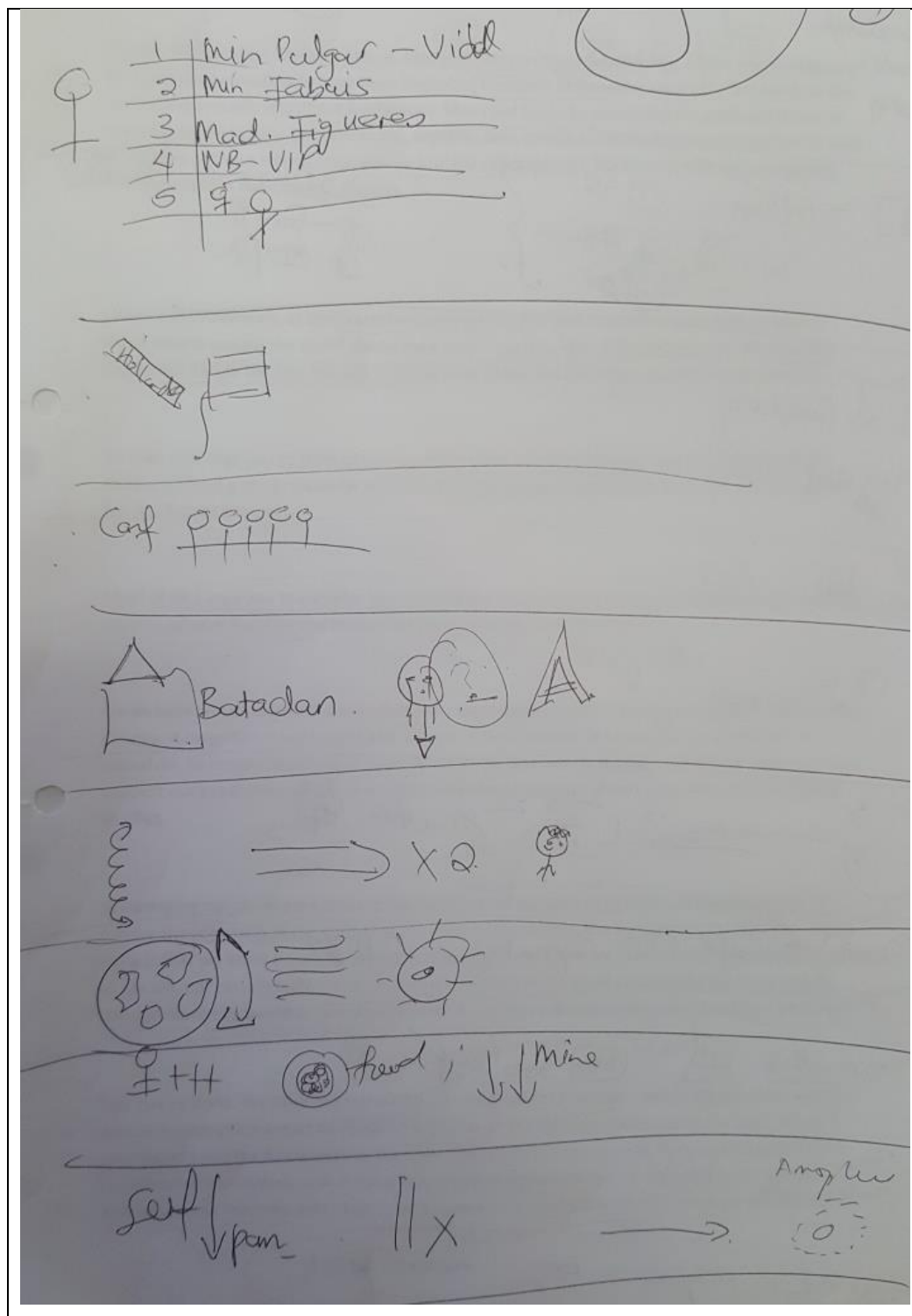


Figure 47: Separation of concepts

- *Note-taking and language directionality*

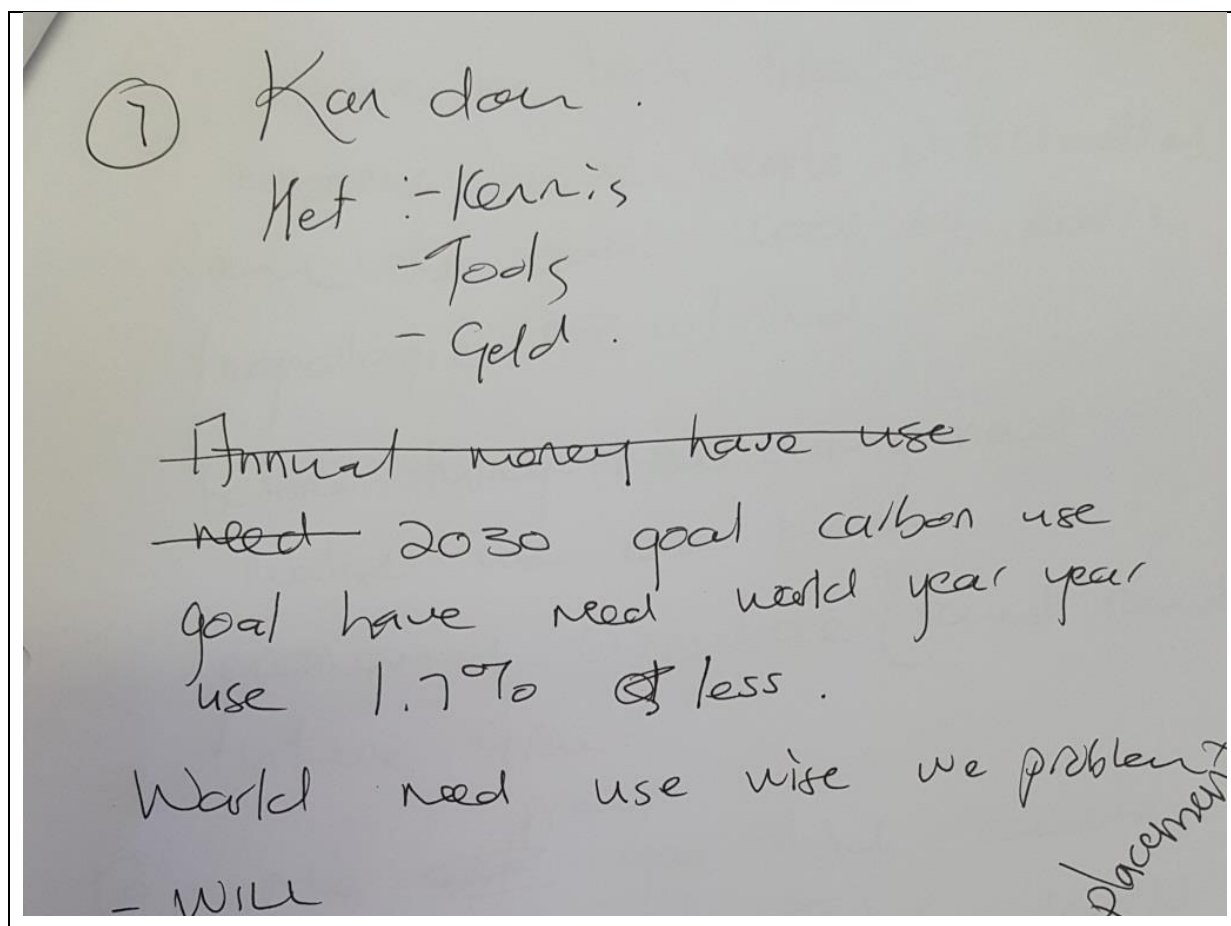


Figure 48: Language directionality in note-taking

Participant A and B, D, E and F used English to jot down all the important information of the source text and identified key words to assist their memory capacity. Participant C relied on her first spoken language for note-taking (second acquired language) to assist in clarifying some of the English source text concepts. The difficulty with South African signed language interpreting is that it is not a written language therefore the interpreter cannot mitigate the cognitive load by notating signed language itself in their preparation, and thus cannot transfer structure of language before the time (cf. Gile 2009) as discussed in Chapter Three. According to Wallmach (2016; personal correspondence) the same can be observed in the process of African language interpreters who prepare in the source language.

- *Note-taking in the form of a gloss*

Some evidence of South African Sign Language structure i.e. object – verb – subject – verb was noted in participant's A preparation. She commented that she preferred to use written words in point form. Participant B glossed key concepts in the form of South African Sign Language structure following a dominant object – subject –verb structure. Her preparations included some linguistic information

relating to handshake and placement. She specifically decided where to use rhetoric questions in the target discourse.

- *The use of symbols*

Participant D drew two distinct figures; one resembling a circular economy with the keyword support written next to it and the other a stick man with arrows pointing to the key concepts pertaining to the human condition. Participant F used symbols, numbers and key words to assist in memory capacity.

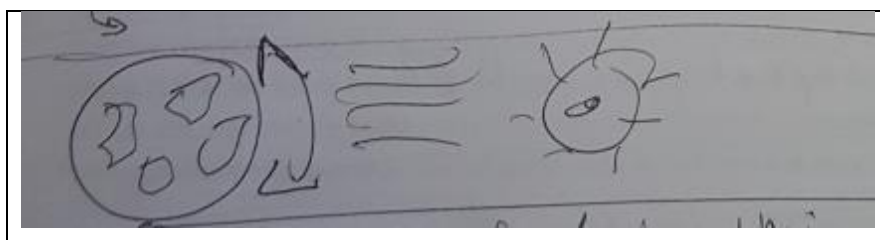


Figure 49: The use of symbols in note-taking

5.8 Phase 5

Phase Five comprised the semi-structured interview and participants were asked to measure the level of stress they experienced during the unprepared and prepared interpretations. On a scale from 1 – 10, one being the least stress and 10 being the most stress, participants rated the stress levels as follows:

Participant	Stress level experienced during unprepared interpretation	Stress level experienced during prepared interpretation
A	9/10	6/10
B	8/10	5/10
C	8/10	6/10
D	9/10	6/10
E	9/10	7/10
F	8/10	6/10

Table 27: Participants' self-reflection

Participants reported on an overall 30% mitigation rate of stress levels experienced between unprepared and prepared rendition of source discourse. This result resembles the same trend as observed in the empirical findings section of this chapter.

5.9. Difficulties identified

Participants described difficulties based on the text, which are categorised as textual, general and lexical difficulties. These categories are discussed below:

5.9.1 Textual difficulties identified

The semi-structured interview allowed for peer review of the preparation process and participants identified specific textual difficulties. Participants A, B, C, D and F noted the difficulty of the speech register and difficult vocabulary.

Participant A: *“The speaker speaks at a high level, uses difficult vocabulary, analogies and several idiomatic expressions, which made it very difficult to interpret at first glance.”*

Participants C, D, E and F identified that the text refers to many unfamiliar names of people, places and presents a succession of numbers to the audience. None of the participants categorised their difficulties according to Gile’s (1995) specific problem triggers, but identified these as textual difficulties that require more cognitive control.

Participants reflected on their performance between the unprepared and prepared renditions of the target discourse and reported on the following differences:

- Participant A reflected on the inability to anticipate incoming information and not knowing what to expect when interpreting unprepared, stating:

“Interpreting unprepared requires much more concentration, but after preparing I was able to anticipate much better. I was also scared of executing a long lag time, because I didn’t feel as if I had enough control over the situation. Preparing definitely increased my control. Without having had the opportunity to prepared the source text, it was also difficult for me to understand the text in its entirety, which meant that my placement of nouns and directional verbs improved after preparing. I felt much more confident after preparing.”

- Participant B highlighted the difficulty of comprehension, lack of background knowledge and lack of confidence when interpreting unprepared and states:

“After preparing I was able to understand the context of the discourse, which improved my sense of confidence. I produced a more target oriented message, because I knew where to place linguistic elements in the space in front of me. I was also better able to control the limit of time, because I could decide what to omit and what to add in the target message once I prepared.”

- Participant C reported an increase in comprehension effort, a difficulty with pace and the lack of accuracy during the unprepared interpretation and explains:

“As soon as I prepared and produced the second interpretation, I identified that I spent less effort on deciphering the source text. I was able to improve my pacing and overall accuracy of the target discourse. I knew what to add and what to omit in the target discourse and felt far less vulnerable. In fact, after I prepared, I felt psychologically ready.”

- Participant D tells of the difficulties experienced when interpreting unprepared; uncertainty of the source text context, finding it difficult to understand the speaker’s accent, having to rely on a short lag time, not being able to anticipate information and feeling vulnerable, all of these have a negative impact on interpreting the target message. Participant D states:

“During the preparation phase I was able to familiarise myself with the context, which assisted me in improving my accuracy. I felt far less anxious because I could anticipate what information was coming next. I had the ability to visualise what was being said and that improved my overall language production, because I now knew what lexicon to use.”

- Participant E also referred to the difficulty of understanding the accent of the speaker, which negatively impacted the language production.

“I wasn’t accustomed to the British accent and it was extremely difficult to decode the source text. This had an overall impact on my lag time and I ended up producing a source language oriented interpretation. I know for a fact that I omitted important information during the first interpretation because I didn’t have enough time to listen, understand and produce a target language message. During the second interpretation, I was more comfortable with the speaker’s accent and I knew the context of the source text, which meant that I could not only improve my anticipation ability, but also produce a target message with far less mistakes. It is so important to understand the source language to deliver a target language message. By means of preparing the source text, the interpreter can meet the audience’s expectations.”

- Participant F too expressed the lack of context as an impeding factor that prevented the use of anticipation as a strategy. This had a negative impact on the overall production of the target language message.

“I experienced an increase in comprehension effort and had limited time to chunk down idioms and similes. It was difficult to decide on the spot what signs to use and what signs to avoid. It was extremely difficult to produce a functionally equivalent interpretation, and impacted my overall confidence. I know that I produced a less accurate target language message during the first interpretation. Reflecting on the second interpretation, I can say that I felt much more confident. I could successfully map the information in the space in front of me, because I knew what information was coming next. Preparation allowed me to know what information to omit and what to add. I could make better lexical choices; improve my register and a more faithful interpretation.”

All the participants reported on the lack of context during their first interpretations. According to Wallmach (2016: personal correspondence) signed language requires a spatial context and not only a linguistic context. Spoken language needs a linguistic context, whereas Sign Language requires the interpreter to chunk up to a knowledge schema therefore applying their general world knowledge. Language transfer from a spoken language to a signed language is thus spatial as well as well as linguistic; meaning that the transfer of abstract concepts is an extremely taxing cognitive exercise.

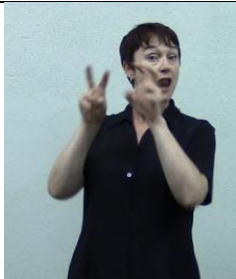
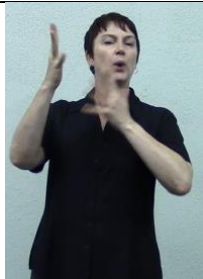
5.9.2 General difficulties

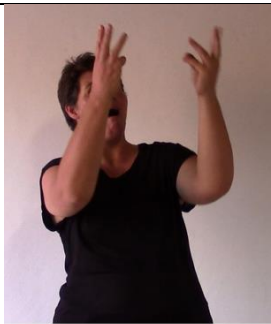
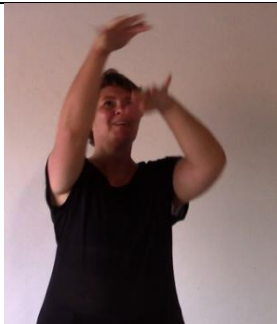
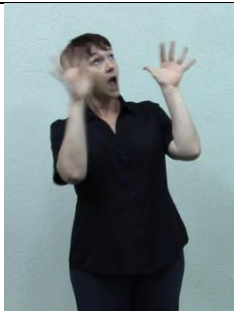
Participant E explained that the speaker’s accent as well as the densely written source text proved problematic during the interpretation process, which forced him to draw from his world knowledge to assist in the language transfer.

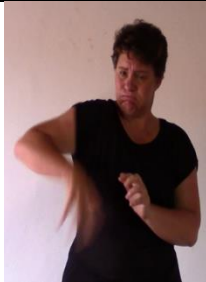
5.9.3 Lexical difficulties

Both Participants C and D commented on the discourse topic and lack of lexical development in the target language. As information regarding climate change is seldom accessed and discussed in the Deaf community social circles of South Africa, the appropriate lexicon for the topic was challenging to the interpreter. The following similarities and differences were observed for a relatively new lexicon for the Deaf community:

			
Sustainable energy: Electricity	Sustainable energy: Save	Sustainable energy: Electricity	Sustainable energy: Sustain

			
Sustainable energy: Electricity	Sustainable energy: How?	Sustainable energy: Wind	Sustainable energy: Turbine

			
Atmosphere: World	Atmosphere: Space- around-world	Atmosphere	Atmosphere

			
Climate change: World	Climate change: Damage	Carbon emissions: Car	Carbon emmissions: Emissions from car exhaust pipe

5.9.4 Preparation and mitigating cognitive load

As previously mentioned, Phase Five concluded the data collection process through a semi-structured interview. The next section discusses responses from each participant regarding how they think cognitive load may be mitigated, interpreting strategies and their recommendations on how interpreting quality on television can be improved.

5.9.4.1 Improved cognitive control

Participant E explained that it is important to prepare mentally prior to an assignment to improve mental processing capacity and mitigate stress levels. Participant B concurs but warns against the over preparing, which may increase cognitive load should the speaker deviate from the original text.

Participant A highlighted the importance of sufficient preparation time to not only take down notes, but also allocate time to rehearse and refer back to the source text by listening to the recording.

In a simplistic model, participant A referred to Gile's cognitive effort model and explained that the most tangible difference between interpreting unprepared and prepared is the allocation of effort to listen, understand and produce a target language message. During her first interpretation, she believed that she allocated her efforts as follows:

Efforts	Listening	Understanding	Producing
Unprepared	60%	30%	10%
Prepared	20%	10%	70%

After preparing the source text participant A commented that she should focus more on producing a language that is less natural to her, and also to recognise what assignments to accept based on her skill set proficiency.

Participant B experienced cognitive bottlenecks during the first interpretation and explained that she was unable to successfully manage her production efforts. Participant D emphasised the importance of possessing a vast general knowledge and background information to effectively produce an accurate target message.

5.9.4.2 Improved implementation of interpreting strategies

Participant B explained that she tried to implement interpreting strategies, but was unable to do so due to time limitation. Instead she relied on emergency strategies such as omission and generalisation. Her stress levels increased during the unprepared interpretation. She advocates the importance of having a vast general knowledge to be “up to date” with current events; especially for television interpreting”.

Participant B concurs that preparation allows for better memory recall and the ability to anticipate ability. Participant C explains that it is imperative that the signed language interpreter has sufficient preparation time before a high demand low, control setting to successfully strategize what to add and what to omit from the source text. Participant D’s stress levels decreased after he was able to prepare as he could verify the correct spelling of names and places, decide on the correct vocabulary, and identify the theme and rheme. Participant F experienced problems anticipating information but could successfully rely on her background:

- Terror attacks in Paris
- Measures taken to mitigate the effects of climate change
- The COP campaign

5.9.5 Participants’ recommendation

Although participants B, C, E and F emphasised preparation as means to mitigate cognitive load, no evidence of applied cognitive factors to the preparation process was observed.

Participants advocate the importance of preparation in every simultaneous interpreting context and highlighted the need for a South African Sign Language online lexicon platform. Participants’ recommendations can be summarised as follows:

- Simultaneous signed language interpreters need support, equal to that of anchor presenters as they are the anchor presenters to the Deaf community

- Awareness needs to be raised to eradicate any incorrect or stereotypical institutional perception
- Specialised training for simultaneous South African Sign Language television interpreters is vital and should encompass the following outcomes:
 - The interpreter should know how to prepare and be able to analyse news discourse
 - The interpreter should display an ethical understanding of all aspects of television interpreting, such as a professional behaviour, neutrality and dress code
 - The interpreter should have a working knowledge of various technical aspects of television interpreting, such as camera framing, sound, etc.
 - A mentorship and coaching structure should be established to monitor and continuously develop the quality of South African Sign Language interpreters on television
 - The interpreter should be able to constructively debrief with a community of practitioners such as fellow expert interpreters

5.10 Proposed model for simultaneous South African Sign Language interpreters on television

Khan (2014: 227) describes that grounded theory is developed from the data analysis process. During the investigation of the difficulty of simultaneous South African Sign Language television interpreting as phenomenon, the preliminary data obtained indicated the need of developing a preparation tool to mitigate cognitive load. Further investigation revealed that a more a sustainable solution to the phenomenon would be to develop a training curriculum aimed specifically aimed at simultaneous signed language television interpreting.

The next section details the proposed contextualisation of two existing courses offered by the University of the Witwatersrand as part of their Master's Degree programme.

5.10.1 The purpose and rationale for specialised training

The status of interpreting services rendered on television requires significant improvement. Specialised training would enable graduates to render professional and qualified interpreting and/or translation services in various media settings, in either the consecutive or simultaneous mode, presented in a professional and ethical manner. This study proposes that two courses comprising the University of the Witwatersrand's Master's degree interpreting and translation programme be suitably adapted to train simultaneous South African Sign Language media interpreters. The next section will outline learning assumed to be in place, course outcomes and course content, and conclude by proposing possible content recommendations to facilitate the successful competency levels of future television interpreter graduates.

The table below outlines the current course content in the left-side column, with a detailed theoretical content application of literature reviewed and information obtained from the study in the right side column. The University of the Witwatersrand's Specialised Conference Interpreting Practice course and Professional Language Enhancement, Transcription and Report Writing course that are both regarded as NQF level 9 qualifications provide the premise for the application of the theory of this research study.

Professional Language Enhancement, Transcription and Report writing	
Wits Course content	Content recommendation with reference to theoretical knowledge in Chapter Three and Four of this study
Public speaking and voice projection; monolingual note-taking exercise	Signing to a national audience with dialectal differences, gloss exercise
Exercises to improve active listening/visualisation, analysis, memory and production skills	Exercises to improve active listening/visualisation, analysis, memory and production skills
Sociolinguistics and language policy	Sociolinguistics of signed language, with special reference to politically correct signs and news register
Understanding discourse: thematic knowledge, argumentation and context	Understanding news discourse: thematic knowledge, argumentative, informative, entertainment value and news contexts
Text type, text preparedness and lexical density	Text type, text preparedness and lexical density
Meeting and conference contexts	News contexts
Audio-visual text types	Audio-visual text types
Re-writing and adapting, degrees of editing and editing procedure	Re-writing newscasts and adapting, degrees of editing and editorial policy influence
Content and structural editing	News content and news structure, language framing applied to news discourse
Stylistic editing	Stylistic editing
Tailoring language to a specific readership	Producing signed language and applying signed language expansion features
Report writing skills	Report writing skills
Transcription and captioning tools and technology	Transcription skills and caption tools and technology
Monolingual subtitling (captioning) and audio-description	Closed captioning for Deaf people and subtitling norms
Language practice	Signed language practice

Specialised Conference Interpreting Practice	Specialised News interpreting Practice
Wits Course content	Content recommendation with reference to theoretical knowledge in Chapter Two Three and Four of this study
Aspects of psycholinguistics, neurolinguistics and cognitive linguistics with reference to the simultaneous interpreting process	Aspects of psycholinguistics, neurolinguistics and cognitive linguistics with reference to visualisation and perception in signed language interpreting

Aspects of rhetoric in conference interpreting	Stylistic devices and aspects of rhetoric in media interpreting
Coping strategies	Coping strategies based on contextual demands, time constraints and cognitive interference
Other kinds of coping strategies	Interpreting strategies, special focus on omission and addition
Applying strategies	Applying translation adaptation models
Working in partnership with other interpreters at conferences	Working with a co-interpreter in media, focus on feeding process (guide on voice or sign feeding)
Conference preparation techniques and terminology management	Preparation techniques, special focus on signed language preparation tools such as mind-mapping and symbols. Terminology management
Public speaking and voice projection	Public signing and expectancy norms
Norms and professional practice in intermediate to advance conference interpreting settings	Initial, production and expectancy norms, with special focus on institutional factors influencing norms of signed language interpreting
Working professionally as a simultaneous interpreter	Working professionally as a simultaneous signed language interpreter on national television
Professional practice before the interpreting process	Professional practice before the interpreting process
Professional practice while interpreting	Professional practice while interpreting, special focus on handling technical difficulties and external interferences
Now norms and setting influence the way we interpret	The television broadcaster influencing the way we interpret
Case study: How norms influence the way we interpret	Case study: what norms influence the way we interpret, special focus on Deaf expectancy norms
Norms in various simultaneous interpreting settings	Media interpreting norms and language framing
Post-interpreting professional practice: debriefing and invoicing	Receiving and giving feedback, debriefing and professional working relationship building with stakeholders, i.e. media house, crew members, Deaf consumers, hearing consumers and mentoring
Analysing intermediate to advanced conference interpreting contexts	Analysing media interpreting contexts i.e. press release, live announcements, pre-recordings, live telecasts
Conference interpreting in South African context	Media interpreting in South Africa, translation and interpreting principles and context
Interpreting for national government (National department conferences)	Interpreting for a national broadcaster

5.11 Conclusion

This chapter explored and categorised the experiences of six South African Sign Language interpreters on national television. 12 transcriptions were analysed and compared against Volkova and Zubenina's (2015) translation communication adaptation model based on a detailed source text analysis of 137 identified textual elements. These transcriptions were also analysed and compared to establish the differences in implementation of signed language expansion features as described by

Lawrence (1995). This chapter compared the difference in lag time between unprepared and prepared target discourse renditions and reported on the observed preparation methods of each participant. The last section of this chapter provided recommendations on how to mitigate cognitive load experienced when interpreting on national television, and concluded with proposed content of theoretical and practical application of two certificate courses facilitated by the University of the Witwatersrand. Course material development and training implementation may provide a platform for further investigative studies. The next chapter provides a detailed summary of all the results and discusses contributions and limitations of the study.

Chapter 6 – Conclusion

6.1. Introduction

Chapter Six revisits the research question presented in Chapter One and provides consolidated answers based on theory and findings. This chapter provides a brief overview of the research study as well as guidelines and recommendations for South African Sign Language simultaneous television interpreters. The last section discusses the validity and reliability of the results, provides a detailed section on the limitation of the study, discusses theoretical contributions to the field of research and concludes by proposing avenues for future research.

6.2 Research overview

This study investigated the cognitive strain associated with simultaneous interpreting in media settings from a cognitive perspective that relates to:

- comprehension
- conceptual representation
- production
- re-expression

Wehrmeyer (2013) contributed significantly to the field of South African Deaf expectancy norms as she investigated the comprehension of Deaf individuals who access live newscasts. However, there has been little investigation into the cognitive strain experienced by signed language interpreters working on television in South Africa, and elsewhere. This study aimed to address this gap by specifically investigating cognitive strain from the South African Sign Language practitioner's point of view in the context of television interpreting. This study observed how interpreters mitigate their cognitive load to overcome challenges.

The following cognitive and interpreting / translating principles were used to inform the study:

- Consecutive interpreting and note-taking
- Source text analysis
- Translation communication model; sociocultural adaptation and pragmatic adaptation
- Signed language expansion features

Chapter Two discussed translation and interpreting from a cognitive perspective and reported on the general norms of television interpreting in the spoken language mode. Chapter Three followed an

investigation of observed norms in signed language interpreting on television both locally and abroad. When compared, similarities and differences were evident. The concept of language fluency in both spoken and signed language television interpreting was discussed as an important requirement for viewer satisfaction.

This study identified 13 direct contrasts between spoken language and South African Sign Language television interpreting as tabled below:

Spoken language interpreting	South African Sign Language interpreting
Spoken language interpreters world-wide recommend that only impromptu speeches be simultaneously interpreted	In South Africa, the broadcaster decides what special programming i.e. political speeches and newscasts require South African Sign Language interpreting
It is best practice that the spoken language interpreter not repeat in the target language message that which is immediately clear from the action on the screen or from subtitles	South African Sign Language interpreters are expected to interpret everything that is spoken and subtitled, given the low literacy levels of the Deaf community; even subtitled discourse is simultaneously interpreted
The spoken language interpreter does not render numerals appearing on the screen in the target language	The South African Sign Language interpreter interprets everything he/she hears, including the rendering of numerals in the target language message
The spoken language interpreter only clarifies new information, which is not deducible from the context	The South African Sign Language interpreter continuously judges what information the Deaf community may have had previous access to and what information is inaccessible; often clarifying background information
The theme should not be clarified	Signed language is a topicalised language and the theme in South African Sign Language is clarified and explicitly established in the target language message
When programming is dubbed or a voice-over provided; original speaker's voice is still audible to the viewer	The Deaf viewer is not able to access any sound and the South African Sign Language interpreter renders everything that is heard from the source discourse to the target language message

The expository simultaneous interpreting mode, as opposed to the rhetorical mode, is used in the rendition of the target language message to avoid unnecessary cognitive load and audience irritation	The signed language interpreter provides total access, which include the interpreting of: • Background noise • Speaker's accent • Audible interruptions
Only expert simultaneous interpreters are assigned to media interpreting	The lack of qualified, accredited and specialised trained South African Sign Language interpreters leads to inexperienced interpreters often being assigned to media settings where a skills-match deficit is evident.
It is recommended that simultaneous interpreters in the spoken language mode form an integral part of the editorial process and provide valuable input in setting up the environment they will work in	South African Signed language interpreters on SABC are still lobbying to become involved in the editorial and decision making process relating to the environment they work in
The simultaneous interpreter receives a script well before the time to prepare and allow him/her the opportunity to view the source discourse (pre-recorded inserts) prior to interpreting	South African Signed language interpreters on SABC receive scripts minutes before the live broadcast, if any at all
Training is essential	A simultaneous South African Sign Language interpreter training curriculum specialising in media interpreting is yet to be developed and implemented
Simultaneous interpreters on television have a clear view of the speaker	Simultaneous South African Sign Language interpreters on SABC do not have a clear view of the speaker
Simultaneous interpreters work in booths where sound is isolated	The South African Sign Language interpreter on SABC is behind a partition, positioned in front of a blue screen in the studio where the newsreaders and camera crew are, but is unable to access any visual cues except that obtained from a monitor and the autocue.

The study explored the additional cognitive strain, unique to simultaneous signed language interpreting and concluded the following:

- Specific linguistic features of signed language and the requirement to chunk up to a knowledge schema lead to stress
- Finger spelled words and terms are often lost on the audience with low literacy skills
- Finger spelling slows down the interpreting process (Knox 2006: 193, Taylor, Swabey and Gile 2015: 20)
- Many terms are not yet standardised in South African Sign Language, specifically judicial, technical, medical, political, scientific and economic terminology require conceptual expansion, and contextualisation, and result in cognitive strain

This study established the political and socio-cultural factors that impact South African Sign Language interpreters' performance and concluded the following:

- South African Sign Language is yet to be recognised as an official language of South Africa (see Akach and Aarons 1998: 4).
- Apartheid in South Africa resulted in the development of many Sign Language systems among different ethnic groups (Aarons and Akach 1998).
- Many English words still do not exist in South African Sign Language.

Grounded theory as methodology provided a platform to explore factors that lead to cognitive overload and to observe the possible means to mitigate strain. A five phase cyclical process was triangulated to answer the research questions.

6.3 Data collection

Phase One consisted of obtaining data through a written questionnaire to collect participants' background information and asked questions around the following:

- perspectives of interpreting norms,
- Understanding of strains
- Recommendations to mitigate cognitive load in media settings

During Phase Two each participant interpreted the source text, which is of a calibre suitable for airing on national/international television, without any opportunity to prepare before the time. Phase Three collected the preparation methods participants implemented during a maximum one hour preparation time, before delivering a prepared interpretation of the same source text used during Phase Four. Phase Five entailed a semi-structured interview and allowed for the following:

- self-reflection,
- clarification of preparation methods,
- consideration of strategies adopted,

- evaluation of cognitive strain and stress factors experienced,
- Report on differences between unprepared and prepared renditions.

6.4 Data analysis

The data was coded and categorised according to initial, institutional, production and expectancy norms. The source text was analysed applying the discourse communication translation adaptation methodology proposed by Volkova and Zubenina (2015). Each participant's unprepared and prepared interpretations were transcribed in the form of a basic gloss, using; ELAN; computer software developed for the purposes of linguistic analysis of audio visual material. Unprepared and prepared interpretations were analysed against the methodology proposed by Volkova and Zubenina (2015) to determine each participant's dominant translation adaptation approach, to document and observe the application of initial norms. Each participant's interpretations were analysed against the expectancy norm of native-like accents provided by Lawrence's (1995) expansion features that provided a theoretical framework to determine participants' shift in meeting audiences' expectations. The average lag time of each participant was calculated to observe the memory capacity and differences between handling information in unprepared and prepared renditions. Different lexical items not yet standardised in South African Sign Language were observed and differences and similarities were recorded.

Chapter Five concluded by providing recommendations and presenting a training model to improve the overall quality of South African Sign Language interpreters on television.

6.5 Summary of findings: research questions revisited

This section revisits the research questions. The main research question is:

- How do expert South African Sign Language interpreters mitigate their cognitive load to produce a target discourse that meets Deaf translation norms (Stone 2009), and reflects signed language expansion features Lawrence (1995) evident in native¹⁹ discourse?

The sub-questions are:

¹⁹ "Native" refers to first language or mother-tongue users of signed language.

- How do SASL interpreters prepare prior to a high demand low control setting, such as interpreting on camera for a live TV broadcast?
- What are the standard preparation methods that assist South African Sign Language interpreters to better control the cognitive demand during interpreting?
- How does preparation assist the interpreter to better implement conscious, meaning-based strategies as opposed to unconscious form-based strategies suggested by Gile (1995) and Kalina (1996) and produce a target discourse that meets the expectation of the target audience as observed by Lawrence (1995)?
- What is the lag time difference between unprepared and prepared target discourse?
- How can the effects of cognitive load be mitigated?

The research questions are answered in sections 6.5.1 to 6.5.4 of this chapter before reflecting on the main research question in section 6.5.5.

6.5.1 How do interpreters prepare prior to live TV broadcast?

Chapter Two discussed Dean and Pollard's (2001) application of Karasek and Theorell's (1979) control and demand schema and television interpreting was defined as a high demand, low control setting (cf. Chapter 2.5). Furthermore, Chapter Two affirmed that the interpreter operates within a cultural environment with certain socio-cultural constraints; and therefore has to adopt different strategies based on expectations, rules and conventions that regulate performance. Chapters Two and Three described the difficulties simultaneous interpreters have to overcome in high demand, low control environments as follows:

- Linguistic difficulties
- Environmental difficulties
- Internal and external difficulties
- Socio-cultural difficulties
- Technical difficulties

Chapter Two established the importance of prior preparation by exploring literature from scholars such as Snelling (1990:63) and Kurz (1990: 169) who describe media interpreting as one of the most taxing forms of simultaneous interpreting, so much so that even those with proper training need ample time to prepare beforehand. The difficulty of television interpreting was highlighted by reviewing scholars such as Darwish (2006: 96) and Kurz (1990: 169) who observed that unlike other forms of simultaneous interpreting where the interpreter has better access to resources to prepare beforehand, television interpreting is;

- discourse that is seldom completely scripted
- discourse consisting of highly technical subject matter
- discourse that is delivered at an excessive speed

These difficulties may impact negatively on the quality of interpretation, and increase the risk of errors and omissions. Chapter Two asserted that preparation increases the simultaneous interpreter's ability to anticipate information, thus decreasing the time lag between the source language utterance and target language rendition (Wadensjö 2008: 184). Chapter Three explored signed language interpreting scholars' views on preparation and highlighted Knox (2006: 183), a professional American Sign Language interpreter who stresses the importance of preparation to ensure quality and to avoid psychological stress. Despite mutual agreement on the importance of preparation, Swabey and Taylor (2014: 2) note that there is no evidence based data for an effective approach to preparation and American Sign Language interpreters have no standard preparation strategies to mitigate textual, environmental and cognitive demand. Data obtained from the six participants of the study supported Swabey and Taylor's (2014:2) observations; every participant indicated the importance of preparation, but no standard model of preparation could be identified. Participants indicated that certain stress factors compelled them to prepare before a live television broadcast. Stress factors included:

- Internal and external stressors
- Linguistic stressors

Participants of this study considered internal stress factors as:

- Fear of the unknown
- Fear of misunderstanding the subject matter,
- Fear of making the most appropriate interpreting decisions (what to add and what to omit),
- Role confusion and mental exhaustion

Participants of this study considered external stressors as:

- Background noise
- Visual distractions
- Unrealistic audience expectations
- Unfair and misinformed peer expectations
- Lack of technical support
- The small space allocated for the interpreter on screen

Participants considered the most prominent linguistic stressors as:

- Discourse density
- Source text comprehension difficulty
- Lexical variation
- Lag time

6.5.2 What are the standard preparation methods?

Despite no standard preparation method observed from the participants, data revealed certain trends, which were consolidated with the basic cognitive principles featured in Chapter Two:

- Basic source text analysis
- Identifying names, places and numbers
- The use of translation tools such as verifying vocabulary from Deaf signers, using the internet for clarification and referring to online dictionaries.
- Using a variety of typologies by noting down preparation
- The impact of language directionality on note-taking in the form of a gloss
- Relying on the use of symbols

6.5.3 How does preparation assist the interpreter to produce a target discourse that meets the expectation of the target audience?

Data was coded and categorised according to initial norms, production and expectancy norms as discussed below:

6.5.3.1 Initial norm

A clear shift from a sociocultural adaptation to a pragmatic adaptation was observed in participant A, B, D, and F's unprepared and prepared interpretations. However, participants C and E implemented a pragmatic adaptation translation approach in both renditions of the target language message. An average of 24.5% sociocultural adaptation dominance was calculated in participants' (A, B, D and F) unprepared interpretations, after which an average shift of 47.5 % towards pragmatic adaptation as translation approach was calculated. Participants C and E showed an overall 12% dominance in pragmatic adaptation as translation approach in their unprepared interpretations. This trend increased to a 22% dominant pragmatic adaptation as translation approach in their prepared renditions.

Preparation resulted in a 39% notable shift towards pragmatic adaptation amongst participants A, B, C, D, E and F.

6.5.3.2 Production norms

137 textual, discursive and communicative elements based on Volkova and Zubenina's (2015) methodology were identified and analysed. The following pragmatic and sociocultural strategies were

observed to determine participants' main translation adaptation approach. Pragmatic adaptation strategies are:

- Omission
- Expansion
- Exoticism (substitution by rough equivalents)
- Updating (substitution by modern equivalents)
- Creation (creating a target text that preserves only the most important information of the source text)
- Explicitness change
- Interpersonal change (the change of formality, degree of involvement and emotive level of the source text)
- Changing the structure of rhetorical questions, exclamations and variations between direct and indirect speech.
- Coherence change (change of the source text structure sequence)
- Partial translation (change of the source text to a summary)
- Visibility change (change to the author's level of presence in the text by adding footnotes etc.)
- Transediting: a radical re-write of the source text

Socio-culture adaptation strategies are:

- Transcription or transliteration of the original notion
- Translation by a more general word to overcome the lack of specificity and vice versa
- Translation by a less expressive equivalent
- Translation by cultural substitution
- Translation using a loan word with or without explanation
- Translation by paraphrase
- Translation by omission or addition
- Translation by illustration to express the source notion.

Participants utilised the following general strategies to overcome translation difficulties that met the pragmatic adaptation criteria:

- Use of rhetorical questions
- Generalisation
- Omission
- Translation by using general words to overcome lack of specificity
- Addition

Participants implemented two specific strategies to overcome the difficulty of stylistic devices such as metaphors and idioms:

- Translation using the same source text notion (socio-culture adaptation approach to translation)
- Explicitness change (pragmatic adaptation approach to translation)

6.5.3.3 Expectancy norms

Expansion features served as theoretical framework to observe expectancy shifts between participants' unprepared and prepared interpretations. Participants increased the use of expansion features by an average of 32% as observed in their prepared interpretations. Participant A showed the greatest difference with an average increase of 49%. This led to the following conjecture:

Lack of experience in live television interpreting equates to the lack of implementing emergency strategies.

Participants B, C, D, E, and F are experienced live television interpreters and showed a similar increase in expansion features. Participant E showed the least overall percentage improvement, which can be attributed to the language directionality.

After preparation, participants revealed a notable shift in meeting the expectations of the target audience and an increase in native-like discourse elements.

6.5.4 What is the lag time difference between unprepared and prepared target discourse?

Lag time was measured by the beginning and ending of each participant's unprepared and prepared target discourse. Findings revealed that the participants were able to minimize lag time after preparation by either anticipating in the beginning, or starting shortly after the speaker's speech, thus supporting the theoretical knowledge discussed in Chapters Two and Three

.

Each participant was also able to minimize lag time, finishing shortly after the speaker at the end of the speech, therefore mitigating the risk of being cut from camera.

6.5.5 How can the effects of cognitive load be mitigated?

Chapters Two and Three reviewed recommendations by scholars on how cognitive load may be mitigated and highlighted Wilson's (2002: 628) observations on how humans cope with cognitive bottlenecks:

- relying on preloaded representations acquired through prior learning is to reduce the cognitive workload by making use of the environment itself
- Accessing information only when needed; instead of spending time decoding unnecessary information, we chose only to decode that which is pertinent to the situation

Chapter 2.14 focussed on mitigating cognitive load experienced by television interpreters in the spoken language mode, and reviewed recommendations by scholars such as Moser-Mercer (2005):

- Interpreters can gain cognitive control by analysing the text/source discourse

Darwish (2005):

- Interpreters can gain cognitive control by possessing a vast general knowledge and accumulate background information when assigned to news broadcasts, political debates and speeches
-

Lee (2006):

- Training is essential

Lee (2011):

- The institution should also provide the simultaneous interpreter a script well before the time to prepare and have the opportunity to view the source discourse (pre-recorded inserts) prior to interpreting

Rennert (2008):

- Simultaneous interpreters on television should have a clear view of the speaker

Harrison and Bakhtiniana (2013):

- the text and image must be used in tandem
- the interpreter should be part of the editorial news team
- the interpreter should point to onscreen images for reference

Chapter 3.7 highlighted Winston and Monikowski's (2005) recommendations for signed language interpreters and reviewed their proposed discourse mapping technique, based on creating an actual map of a text to see the relationship of four components:

- perspective
- content
- context
- form

Qualitative data supported the theoretical knowledge in Chapters Two and Three as participants reported on the importance of preparation that allowed for improved overall cognitive control and Improved ability to successfully implement conscious interpreting strategies

6.5.6 How do expert South African Sign Language interpreters mitigate their cognitive load?

Participants provided advice on how to overcome both internal difficulties and external difficulties. Their guidelines are tabled below: How to overcome internal difficulties and mitigate cognitive load:

• Simultaneous signed language interpreters need support equal to that of anchor presenters as they are the anchor presenters to the Deaf community
• Eradicating incorrect and stereotypical institutional perception's around interpreter services and the Deaf community
• Specialised training for simultaneous South African Sign Language television interpreters is vital
• The interpreter should know how to prepare and be able to analyse news discourse
• The interpreter should display an ethical understanding of all aspects of television interpreting, such as a professional behaviour, neutrality, and dress code

How to overcome external difficulties and mitigate cognitive load:

• The interpreter should have a working knowledge of various technical aspects of television interpreting, such as camera framing, sound, etc.
• A mentorship and coaching structure should be established to see to the continuous development and quality of South African Sign Language interpreters on television
• A platform for constructive debriefing sessions should be created

6.6 Conclusion of the study/ guidelines for South African Sign Language simultaneous television interpreters

Although a preparation model would assist in mitigating cognitive load of South African Sign Language interpreters on television, the importance of specialised training cannot be disregarded. This research study concludes that a specialised training curriculum should be implemented that encompasses all the relevant theory discussed in Chapters Two and Three. Media interpreting training would not only mitigate the cognitive load interpreters currently experience on television, but also enhance the overall quality of the output and promote the profession, with goal of ultimately training Deaf interpreters on television as was proposed by scholars such as Stone (2009) and Wehrmeyer (2015).

The research drew from a grounded theory approach (Glaser and Strauss 1990). Both qualitative and quantitative data triangulated in a cyclical five phase data collection process allowed for the observation and analysis of the following:

- translation shifts
- trends in interpreting strategies
- preparation methods

Semi-structured interviews were conducted and a written questionnaire completed by each participant to collect the necessary data for analysis. Findings alluded to the importance of a holistic approach to the specialised training needs of experienced South African Sign Language interpreters.

6.7 Theoretical contributions

This study offers a number of theoretical and practical contributions to existing knowledge of television simultaneous interpreting. The theoretical and practical contributions are discussed as follows:

6.7.1 Theoretical applications

This study makes the following theoretical applications from a cognitive perspective to simultaneous South African Sign language interpreting on television:

- The application of high demand low control schema (Dean and Pollard 2001) to simultaneous South African Sign Language interpreting on television

- Investigates the initial norm of translation adaptation drawn from Volkova and Zubenina's (2015) communication discourse translation adaptation model amongst participants to observe their translation approach dependent on textual features of the source text
- Investigates Lawrence's (1995) expansion features based on the expectancy norm of Deaf native-like discourse by drawing from her framework to observe the difference in implementing these features in participants unprepared and prepared discourse
- Observing the general trends of preparation based on note-taking norms in consecutive interpreting (Rozan 1956)

Although there are many signed language corpora used for linguistic analysis, this is the first time that the same source text is recorded for both the unprepared and prepared interpretations, and therefore presents a valuable contribution to the existing corpora of signed language interpreting studies from a cognitive perspective.

6.7.2 Practical applications

The study makes the following practical applications from a cognitive perspective to simultaneous South African Sign language interpreting on television:

- It serves as a document to account for the difficulties associated with television interpreting
- It serves as a document that recorded first-hand experiences from practicing simultaneous South African Sign Language interpreters on television
- It serves as an advocacy document that recorded recommendation from these professionals against a background of rich literature in the field of media interpreting
-

The introduction of expansion features serves as ground breaking research and if implemented successfully, will enhance both the overall comprehension of Deaf audiences, and improve the quality of interpretation accessed on national television

This study reflects on the cognitive load and presents mitigating factors based on theory and analysis to propose an *outcome* based training model that is a practical tool to provide theoretical and practical support to interpreters on television.

6.8 Validity and reliability of results

Rose, Spinks and Canhoto (2015: 6) explain that grounded theory research provides a platform to gain a deeper understanding of the topic by simulating the same environment and observing interaction and actions taken. This study meets the grounded theory coding paradigm posited by Glaser and Strauss (1998 cited in Rose, Spinks and Canhoto 2015: 4):

- The central phenomenon (why is television interpreting difficult?) of the study around mitigating the cognitive load experienced by simultaneous signed language television interpreters is covered, in both theory and data collection
- The conditions that contribute to the increase and subsequent mitigation of cognitive load are covered in both the theory and data collection analysis phases (how can interpreters better cope?)
- The context is investigated in both the theoretical and practical sections of the study (television is a high demand, low control setting)
- Actions and interactions taken by people in response to the phenomenon have been discussed and reflected on in both the theoretical and practical sections of the study
- The consequences of these actions and interactions are discussed

There are 19 interpreters in South Africa who have some experience in television interpreting with only ten SATI accredited, three of whom agreed to participate in the research. This study therefore did not aim to construct samples as statistical representation, but reports instead on the cognitive strain experienced by simultaneous South African Sign Language interpreters, and documents notable shifts between unprepared and prepared interpretations. This study can therefore not make definite conclusions from the findings in any prescriptive manner and the data merely reflects the views and norms observed from the theoretical sample group.

6.9 Limitations of the study

Five limitations were identified that include: sample size, research impartiality, environmental research variables, lack of using a Deaf focus group, the inaccessibility to historical data and endorsement. Each limitation is discussed and followed by recommendations for further investigation.

6.9.1 Sample size

This research was conducted during a time marked by socio-political discourse and negative racial undertones that presented itself in the South African Sign Language interpreting fraternity. To date, these negative experiences reported on social media platforms are left unresolved and impacted negatively on the size of the sample group.

A long standing notion of error-omission based research typologies has caused reluctance among many professionals interpreters to participate in descriptive research aimed at the developing the profession within a South African context. These factors could be attributed to the limited response from prospective participants.

Further developments and future studies aimed at enhancing the profession of South African Sign Language interpreting could potentially change negative perspectives around participation in empirical studies.

6.9.2 Impartiality

As discussed in Chapter Two, no interpretation is the same (Korzibsky 1951: 11) and although a sound methodology was chosen for this study, the data analysed is the product of one researcher's perspective and interpretation. Researcher's replicating the same study may draw different conclusions; however, the methodological framework allows for a similar study to be easily replicated by other researchers.

The study aimed at emulating the same cognitive strain as experienced when interpreting live on national television, although variables inevitably impacted on recreating the same ambiance interpreters experience when assigned to live newscasts.

6.9.3 Environmental variability

The SABC is a national key point and is regulated by the National Key Points Act 1980. The research was not conducted in one of the SABC studios due to cost implication and travel costs to be incurred by each participant. Data collection Phases Two, Three, Four and Five took place at various locations as arranged between the researcher and participant. Logistical arrangements took into consideration factors that would result in the most cost effective and time efficient data collection process for each individual participant.

Similar to what Swabey and Taylor (2014) noted, this study could not identify standard preparation methods implemented by participants. Nevertheless, data coding allowed for the categorisation of observed trends in preparation amongst participants. Although the methodological framework mitigated the possibility of biased data analysis, the aim of impartial observer and reporter was a continuous challenge throughout the data collection and analysis phases, as the researcher had to consciously work from the paradigm of reflecting on data as a researcher and not a practicing "interpreter".

6.9.4 Non-application of Deaf focus group

This study did not rely on a Deaf focus group to validate the differences in expectancy norms between unprepared and prepared interpretations. The data was instead analysed against Lawrence's

(1995) expansion features as theoretical framework, and the differences observed were reported from the hypothesis of enhanced expectancy norms, after participants prepared.

6.9.5 Limited South African Sign Language linguistic analysis

The methodology of this research focused on discourse analysis and not in-depth linguistic analysis that includes facial expressions, verb agreement, classifiers, handshapes, orientation and location. The data obtained from Phases Two and Four provides a corpus for future linguistic analysis. The lack of financial resources and the limited time frame prevented the researcher from employing the assistance of a native Deaf user of South African Sign Language to analyse the textual data. Furthermore, the assistant would have had to be trained in the methodology, would be outside the scope of the researcher.

6.9.6 Inaccessibility to historical data and lack of endorsement

Attempts by the researcher to obtain first-hand experiences from pioneer South African Sign Language interpreters involved in the negotiation process that resulted in the first television interpreting seen after 1994, did not prove successful. An enquiry resulted in a negative response around the study's validity and methodology. Based on the perceived conflict of interest between the researcher and DeafSA (the Deaf federation of South Africa), this study received no prior endorsement by the recognised Deaf custodian body in South Africa (DeafSA), that is responsible for advocacy on behalf of the Deaf community. Results and findings of this study however may be used by DeafSA.

The study would therefore be enhanced by the following:

- Increasing the sample group
- More than one person assigned to data analysis
- The SABC be used as venue for research collection
- The sample group consist of professional interpreters trained in consecutive interpreting note-taking skills
- Research should include a Deaf focus group to empirically validate the extent of expectancy norms from target audiences
- Research conducted by a non-practicing South African Sign Language interpreter.
- Creating the necessary professional working relationships to facilitate the documenting of historic and current information availability between researchers and the South African custodian body responsible for advocacy

6.10 Suggestions for further research

The study investigated the cognitive strain experienced by simultaneous South African Sign Language interpreters and provided a broad overall depiction of theory related to interpreting as a cognitive, norm governed activity. Coding and saturation of data during the analysis phase generated suggestions for further research. The research findings serve as blueprint for training material to be developed and its subsequent success or failure should be investigated and reported on.

During the process of analysis, several questions for further research were raised:

- Is the adaptation approach to translation source text dependant or setting dependent?
- Is interpreting from a spoken language to a signed language more cognitively taxing than interpreting between two spoken language modes?
- If the study should be applied to spoken language interpreting on television would it achieve the same results?
- Do spoken language interpreters prepare differently to signed language interpreters?
- Is listing as an interpreter strategy most prominently implemented by spoken or signed language interpreters?

The following developmental issues were identified:

- The need to develop a translation adaptation model specifically aimed at signed language interpreting that includes the theory discussed in this study.
- The imperative need for the development of an easily accessible South African Sign Language word bank to serve as translation tool
- The importance of developing specialised training that meets the needs raised and incorporates the recommendations provided in the findings section of this research
- The need for a signed language translation communication discourse adaptation model that incorporates a visual dimension imperative to signed language linguistics
- A good working relationship between all stakeholders comprising: media institutions, service providers and advocacy bodies
- The need for increased awareness amongst all stakeholders involved in creating access by means of signed language interpreting on television

New knowledge could be added to the existing body of knowledge of interpreting and translation studies by comparing observations presented in this study to spoken language interpreting. The data collection process was subsequently replicated amongst interpreters from English to French, Arabic, Portuguese and Afrikaans and may be analysed against a comparative studies framework, which should yield interesting results.

6.11 Conclusion

Chapter Six summarised the findings and theoretical knowledge to answer the main research question. The study serves as reference to develop a training programme based on an identified curriculum framework that includes the specific outcomes presented in Chapter Six. Relevant sections of this study may serve as theoretical knowledge in the development of a training manual. Specialised training of simultaneous South African Sign Language interpreters would not only mitigate cognitive load but also enhance the quality of output and improve overall access to media broadcasting for the Deaf community. Results and findings disseminated amongst the larger academic community will allow for further development, investigation and contribution to the field of interpreting and translation studies, to facilitate the necessary development for interpreting on television to be done by Deaf interpreters themselves.

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Appendices

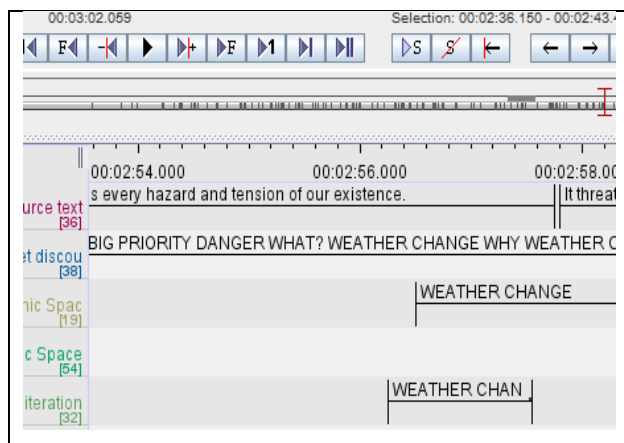
Appendix A

Translation adaptation approach analysis

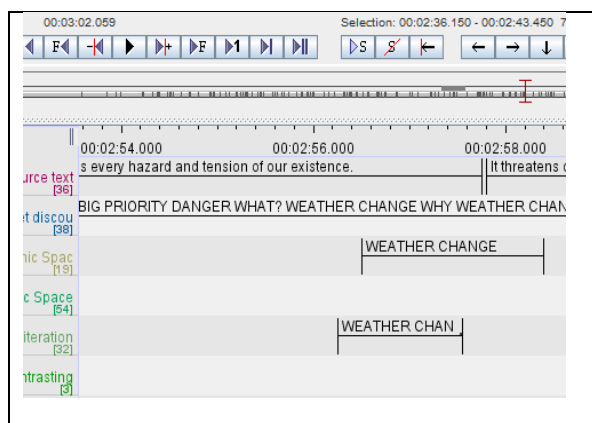
The following section discusses some examples of shifts observed on a textual level between unprepared and prepared target language messages:

1. Source text elements that meet the pragmatic criteria on a textual level

Participant A



A unprepared -



Participant A prepared –

Source Text
<i>It threatens our ability to feed ourselves; to remain healthy and safe from extreme weather; to manage the natural resources that support our economies, and to avert the humanitarian disaster of mass migration and increasing conflict.</i>
Gloss: transcription of unprepared target message
AFFECT-(general word) PERSON ONE SAFE, TWO WEATHER, THREE HEALTH, FOUR FOOD NATURAL EQUIPMENT ²⁰ MANAGE HOW-HOW ALSO NATURAL EQUIPMENT HOW SUPPORT. <u>WE WEATHER DAMAGE?</u> (rhetorical question) <u>MEANING FUTURE HUMAN DAMAGE</u> (generalisation) WILL
Back translation
Climate change affects firstly our safety secondly, the weather thirdly, our health and fourthly our food, how we manage our equipment and support our natural equipment. If we destroy our climate, we will destroy our future.
Shifts observed
• Use of rhetorical questions • Generalisation • Translation by using more general words to overcome lack of specificity
Translational approach
Sociocultural approach
Gloss: transcription of prepared
<u>WEATHER CHANGE INFLUENCE</u> - (general word) ONE FOOD TWO HEALTH TWO SAFE WEATHER CHANGE WE SAFE HOW HOUSE BUILD DIFFERENT-DIFFERENT-DIFFERENT HOW (generalisation) . <u>EQUIPMENT SUPPORT HOW?</u> (rhetorical question) ALSO HELP WHAT WORLD COUNTRY PEOPLE FROM-UP-MOVE OTHER COUNTRY WAR HAPPEN THERE.
Back translation

²⁰ In both unprepared and prepared target language messages, participant A produced the incorrect sign for economy and produced the sign for economy instead.

Climate change influences how we obtain food, secondly, our health, secondly, being safe in moderate weather conditions and how we manage and support our resources. Protecting our climate will also avoid people moving from one country to another and start wars.

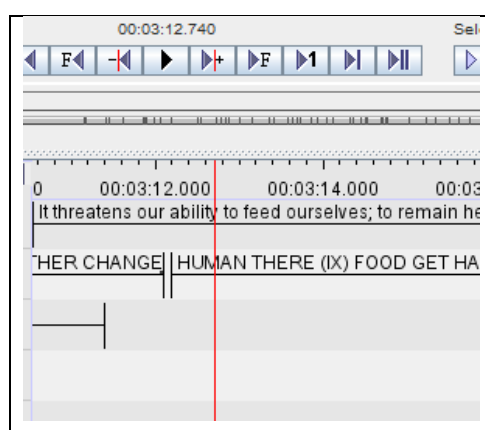
Shifts observe

- Use of rhetorical questions
- Generalisation
- Translation by using general words to overcome lack of specificity

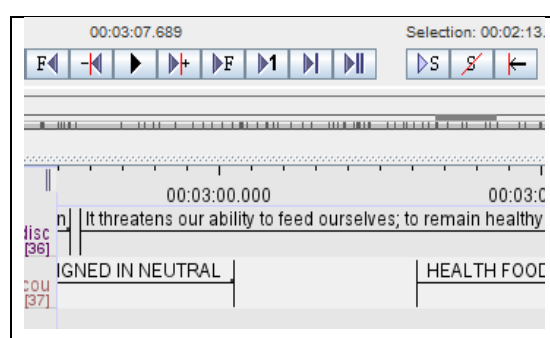
Translational approach

Sociocultural approach

Participant B



Participant B unprepared



Participant B prepared

Source Text

It threatens our ability to feed ourselves; to remain healthy and safe from extreme weather; to manage the natural resources that support our economies, and to avert the humanitarian disaster of mass migration and increasing conflict.

Gloss: transcription of unprepared target message

HUMAN THERE (IX) FOOD GET HAVE TWO HEALTHY SAFE? WEATHER TERRIBLE. ECONOMY THERE (IX REFER TO THE WORLD) SUPPORT THROUGH NATURAL RESOURCES (addition) ALSO PICK-UP-MOVE-MOVE (FROM ONE LOCATION TO THE OTHER) OTHER COUNTRY WAR (original notion) VERY-BAD HAPPEN.

Back translation

Would the human race be able to get food, be healthy and safe in such terrible weather conditions? Climate change affects our economies based on natural resources. Climate change can lead to people moving from one country to another that can create war.

Shifts observed

- Translation by addition
- Translation of original notion

Translational approach

Sociocultural approach

Gloss: transcription of prepared

HEALTH FOOD SAFE KEEP SELF WEATHER WORSE MANAGE RESOURCES PERFECT ALSO ECONOMY THERE (PLACED IN NEUTRAL SPACE) GOVERNMENT THERE (IX) (PLACED ABOVE) RESOURCES (SIGNED IN NEUTRAL SPACE TRADE-TRADE (BETWEEN RESOURCES AND GOVERNMENT) (expansion) PEOPLE MOVE-TO-OTHER-SPACE (LEFT OF SIGNER) FIGHT (NEUTRAL SPACE) (explicitness change) AVOID HOW?

Back translation

How can we ensure our safety, avoid climate change, manage our resources appropriately and ensure trade between countries? How do we avoid people moving from one country to the other and creating wars?

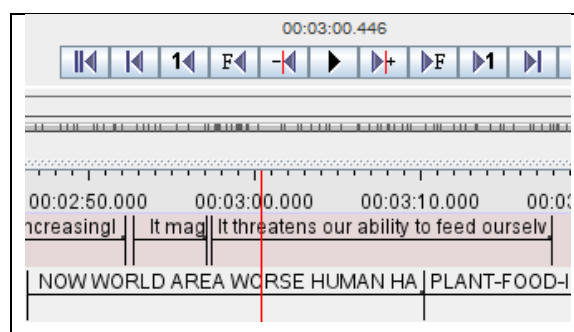
Shifts observe

- Explicitness change
- Expansion

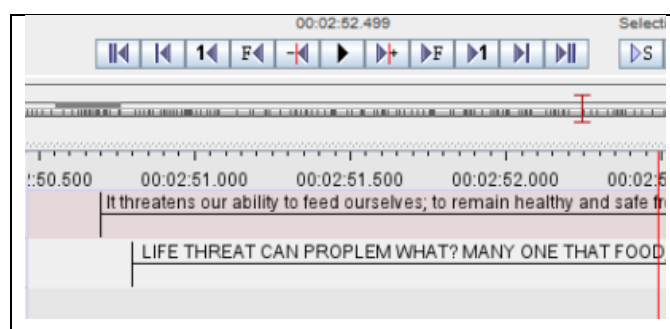
Translational approach

Pragmatic adaptation

Participant C



Participant C unprepared

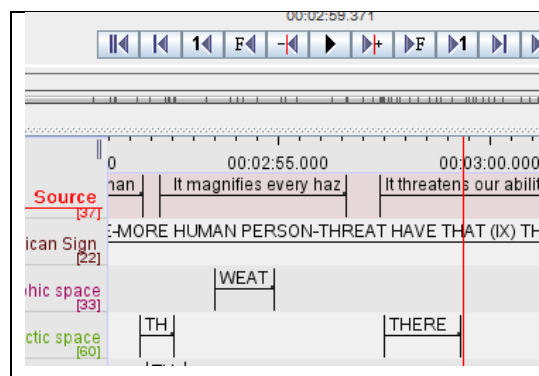


Participant C prepared

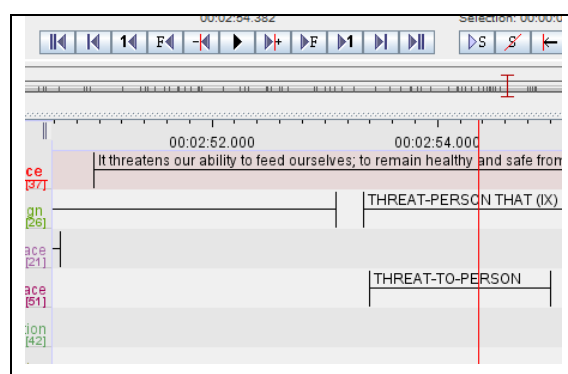
Source Text
<i>It threatens our ability to feed ourselves; to remain healthy and safe from extreme weather; to manage the natural resources that support our economies, and to avert the humanitarian disaster of mass migration and increasing conflict.</i>
Gloss: transcription of unprepared target message
PLANT-FOOD-IN-PLANTATION GROW THAT STUCK WHY RAIN (expansion) NOTHING 2. HOT 3. WEAHTER CHANGE-BIG THAT PROBLEM FUTURE CAN ALSO COUNTRY-HERE COUNTRY-THERE PEOPLE-HERE WORRY THEY SAFE NOT RUN OTHER COUNTRY THERE WORSE WAR CAN THEN.
Back translation
We won't be able to cultivate food, due to drought. Secondly, it will be every hot. Climate change has

a big impact on our future as humans, it may lead to people moving from one country to another because they worry about their safety and even worse, wars can take place.
Shifts observed
Expansion
Translational approach
Pragmatic adaptation
Gloss: transcription of prepared
<u>LIFE THREAT CAN PROBLEM WHAT? MANY! ONE (POINT) THAT(FOOD, TWO HEALTH, THREE, WEATHER RAIN FLOODS WATER RISE OR DRY LIFE HOW? FOUR SAME NATURAL THINGS ECONOMY CONTINUE CAN FIVE SAME CAN MANY PEOPLE COUNTRY-THERE DRY FOOD NOTHING THEY GO-OTHER-COUNTRY FIVE, SIX PROBLEM WARS (coherence change)</u>
Back translation
Climate change threatens our lives and leads to the following problems: 1. Food, 2. Health, 3. Flash floods or droughts. How would we be able to live without natural resources and trade? Famine in one country due to drought may cause people to move to another country to find food, but it can lead to wars.
Shifts observe
Coherence change
Translational approach
Pragmatic adaptation

Participant D



Participant D prepared



Participant D unprepared

Source Text
<i>It threatens our ability to feed ourselves; to remain healthy and safe from extreme weather; to manage the natural resources that support our economies, and to avert the humanitarian disaster of mass migration and increasing conflict.</i>
Gloss: transcription of unprepared target message
THREAT-PERSON THAT (IX) FOOD HAS NO HEALTH FOOD SAFE LIFE MANY-PEOPLE-NEXT-TO-EACH-OTHER (CF) WEATHER AFFECT-THEM AND HUMAN RESOURCES MANAGE HOW? SUPPORT ECONOMY. HOW HUMAN MOVE CITY MOVE-MOVE (IX) REDUCE LESS CONFLICT (translation of original notion)
Back translation
<i>Humanity is threatened by lack of food, ill health, safety and over population. The climate affects all and how would we be able to manage our resources and support our economy? How can we avoid people moving to city and how can we ensure less conflict.</i>
Shifts observed
Translation of original notion
Translational approach
Sociocultural adaptation
Gloss: transcription of prepared
<u>THREAT SPECIFICALLY WHAT? CLIMATE CHANGE HUMAN LIFE THERE (IX) DAMAGE CAN POSSIBLE? ALSO FOOD ONE LESS TWO HEALTH SAFE WHY? WEATHER CHANGE MUST-NOT-ALLOW MANAGE WATER RESOURCES FOOD MANAGE (IX) PROPERLY</u>

(expansion) SUPPORT-TO US ECONOMY SUPPORT ALSO MAKE PEOPLE (IX RIGHT) MOVE-TO-RIGHT AVOID THAT (IX POINT TO OVERPOPULATION).

Back translation

Climate change has a specific threat to us as humans and can destroy us. Also we would have no food and ill health; secondly we would not be safe because of climate change. How would we manage our water resources and food supplies to support our economies and avoid people moving from one place to another?

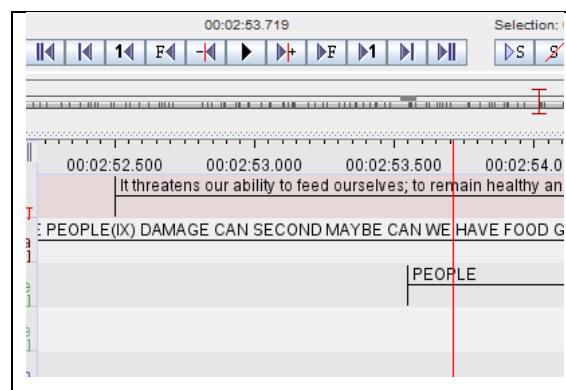
Shifts observed

- Expansion

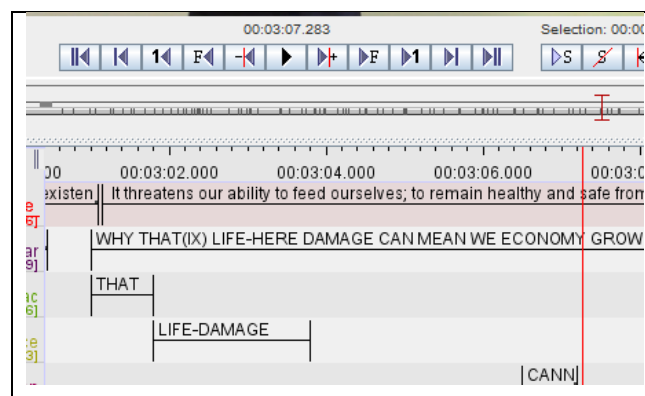
Translational approach

Pragmatic adaptation

Participant E



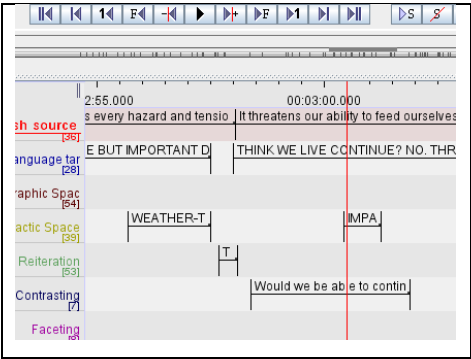
Participant E unprepared



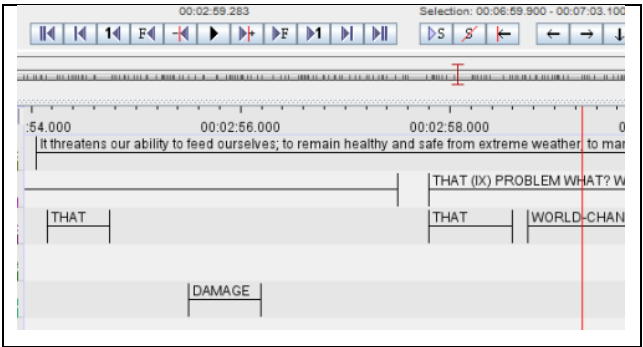
Participant E prepared

Source Text
<i>It threatens our ability to feed ourselves; to remain healthy and safe from extreme weather; to manage the natural resources that support our economies, and to avert the humanitarian disaster of mass migration and increasing conflict.</i>
Gloss: transcription of unprepared target message
WHY LIVE PEOPLE (IX) DAMAGE CAN SECOND MAYBE CAN WE HAVE FOOD GROW (addition) CANNOT HEALTH CANNOT WHY WEATHER BAD THERE (IX) HUMAN RESOURCES MANAGE ECONOMY GROW MAYBE CANNOT. (omission of mass migration)
Back translation
Our lives will be damaged, we won't have any food, and we won't be healthy, because the weather would be bad. We might not be able to grow our economy and manage our human resource.
Shifts observed
• Translation by omission and addition (i.e. compensation)
Translational approach
Sociocultural adaptation
Gloss: transcription of prepared
WHY THAT (IX) LIFE-HERE DAMAGE CAN MEAN WE ECONOMY GROW CANNOT TWO HEALTH CANNOT THREE SAFE CANNOT WHY WEATHER DANGEROUS THERE (IX) WE-HERE DIE RESOURCES GROW ECONOMY DEVELOP CANNOT. WHY THEY-THERE (IX) MANY PEOPLE-HERE WATER RISE (expansion) PEOPLE-MOVE CONFLICT CAN. (structural change)
Back translation
Our lives would be destroyed, because we won't be able to grow our economies, secondly we would not be healthy and thirdly we would not be safe because of dangerous weather conditions. We would all dies and our economies would not be developed. Due to tsunamis and floods, people would move away and there would be lots of conflict.
Shifts observe
• Structural change • Expansion
Translational approach
Pragmatic adaptation

Participant F



Participant F unprepared



Participant F prepared

Source Text
<i>It threatens our ability to feed ourselves; to remain healthy and safe from extreme weather; to manage the natural resources that support our economies, and to avert the humanitarian disaster of mass migration and increasing conflict.</i>
Gloss: transcription of unprepared target message
THINK WE LIVE CONTINUE? NO. THREAT DAMAGE ONE WHAT? FOOD LOOK-FOR TWO LIFE HEALTHY-HOW THREE SAFE? WEATHER DANGEROUS <u>THINK MINE RESOURCES ECONOMY RESOURCES</u> (expansion)- <u>TAKE SUPPORT ONE TWO THREE FOUR ETC. THINK THAT-SPECIFIC (IX) THINK WHAT FUTURE PERIOD BUT WAR</u> (exoticism), PEOPLE FIGHT HAPPEN WILL.(structure change)

Back translation
Would we really be able to continue our lives like this? No. The threats are: 1. We would have a food shortage, secondly we would not be healthy. Thirdly, would we be safe? Climate change is dangerous. How would we support our food resources and mining resources? How would we support our economies, etc.? Think about what can happen in future, there will be conflict and people will start wars.
Shifts observed
• Structure change • Expansion • Exoticism
Translational approach
Pragmatic adaptation
Gloss: transcription of prepared
THAT (IX) PROBLEM WHAT? WORLD CHANGE FOOD DISAPPEAR WAVES WINDS HAPPEN (expansion) MINE THAT SUPPORT HOW THAT SUPPORT US PLAN THAT SAME YOU PLAN WHAT? (exoticism) WORLD CHANGE MEANING WHAT? PEOPLE WAR FIGHT HAVE (structure change)
Back translation
What would the problems be: food shortages, typhoons and tsunamis, lack of mining resources to support us. Climate change will lead to wars.
Shifts observe
• Structure change • Expansion • Exoticism
Translational approach
Pragmatic adaptation

2. Text elements that meet the pragmatic criteria

Participant A

Source Text
<i>May I just begin by expressing my profound horror at what happened in Paris two weeks ago,</i>

together with untold sympathy for the grieving families and loved ones of those whose lives were so brutally extinguished?

Gloss: transcription of unprepared target message

TODAY WOW IMPACT-ME TWO-WEEKS AGO PARIS HAPPENED ME SHOCK

Back translation

Today, I am touched. What happened in Paris two weeks ago shocked me.

Shifts observed

- Omission

Translational approach

Pragmatic adaptation

Gloss: transcription of prepared

NOW WANT START WHAT? (explicitness change) TWO WEEKS BACK PARIS BOMB HAPPEN SHOCK WHY DIE DIE FAMILY (IX) HEART-BREAK. (exoticism)

Back translation

I would like to start by explaining how shock I am of the bomb blasts in Paris. Many people died and left behind their families that are heart-broken.

Shifts observed

- Explicitness change
- Exoticism

Translational approach

Pragmatic adaptation

Participant B

Source Text

May I just begin by expressing my profound horror at what happened in Paris two weeks ago, together with untold sympathy for the grieving families and loved ones of those whose lives were so brutally extinguished?

Gloss: transcription of unprepared target message
ME-HONOUR EXPRESS BAD BEFORE HAPPEN PARIS.FAMILY THERE (IX) FEEL WORRY THEY (IX) SOME THEY LIFE DIE.
Back translation
I am honoured and want to say how bad I feel for what happened in Paris. Many people are worried, some people lost their lives.
Shifts observed
• Omission • Addition
Translational approach
Pragmatic adaptation
Gloss: transcription of prepared
BEFORE SPEAK I-EXPRESS-FROM-HEART TWO WEEKS AGO PARIS HAPPEN HEARTSORE HAVE CONDOLENCES FAMILY THERE (IX PLACED RIGHT) (IX) THERE (IX PLACED LEFT) DIE WORSE THEY (IX)
Back translation
Before I start my speech, I want to say from my heart and pass my condolences for what happened in Paris two weeks ago. Families of people who died, I am sorry, they are sad.
Shifts observed
• Translation of original notion
Translational approach
Sociocultural adaptation

Participant C

Source Text
<i>May I just begin by expressing my profound horror at what happened in Paris two weeks ago, together with untold sympathy for the grieving families and loved ones of those whose lives were so brutally extinguished?</i>
Gloss: transcription of unprepared target message

I PERSON INFORM-(addition) TO-YOU TWO-WEEKS AGO PARIS COUNTRY NAME CITY P-A-R-I-S FRANCE AREA-THERE THERE I INFORM-TO-YOU HAPPEN-THERE BOMB FEEL-EMOTIONAL INFORM THAT-PLACE HAPPEN PEOPLE SUFFER FAMILY DIE THERE FRENCH PEOPLE THEY HAVE ANGRY I HEART-SORRY THEM.
Back translation
I personally want to tell you how sorry I the bomb blasts that happened in Paris, France two weeks ago. Those people's families who now suffer and the French people who are angry, I am sorry.
Shifts observed
• Omission • Addition
Translational approach
Pragmatic adaptation
Gloss: transcription of prepared
I THINK FIRST EXPLAIN WOW TWO TWO WEEKS AGO THERE COUNTRY FRANCE PARIS P-A-R-I-S WOW HAPPEN BOMB BOMB SHOOT SHOOT PEOPLE DIE FAMILY THEIRS SORRY WHY DIE FAMILY ALSO THEY PEOPLE COUNTRY FRENCH I SAY HEART-SORRY RELATE WHY THEY WORSE TIME.
Back translation
Firstly I would like to tell you how sorry I am. Two weeks ago in Paris France bomb blasts took place, people were shot. My condolences to those families and to the people of France during this bad time.
Shifts observed
• Translation of original notion
Translational approach
Sociocultural adaptation

Participant D

Source Text
<i>May I just begin by expressing my profound horror at what happened in Paris two weeks ago, together with untold sympathy for the grieving families and loved ones of those whose lives were so brutally extinguished?</i>
Gloss: transcription of unprepared target message
I CAN EXPRESS SHOCK HAPPEN AGO PARIS TWO WEEKS AGO MY-HEART PERSON-

SHAME PEOPLE FAMILY LOVE LIFE THEY-DIE (IX) BAD MY HEART-SAD FRENCH YOU(IX) HOUR HEART-SAD WITH SUPPORT.
Back translation
I want to say how shocked I am of what happened in Paris two weeks ago. My condolences to the families of loved ones who died. I am sad with the French people and support them.
Shifts observed
• Omission
Translational approach
Pragmatic adaptation
Gloss: transcription of prepared
I-THINK START SAY WHAT? PARIS TWO WEEKS AGO HAPPEN BAD BOMB HEARTFEEL FAMILY FAMILY DIE DIE (IX) FEEL-SORRY.
Back translation
I want to start by saying my condolences to the families of those people who died in the bomb attacks in Paris two weeks ago.
Shifts observed
• Translation of original notion
Translational approach
Sociocultural adaptation

Participant E

Source Text
<i>May I just begin by expressing my profound horror at what happened in Paris two weeks ago, together with untold sympathy for the grieving families and loved ones of those whose lives were so brutally extinguished?</i>
Gloss: transcription of unprepared target message
FIRST I FEEL-HEART-ACKNOWLEDGE INFORM PARIS AGO TWO WEEK HAPPEN BAD WHY SECOND FAMILY PEOPLE WHO DIE THEY-OTHERS BAD SHOOT-SHOOT DIE HEART-SORRY.

Back translation
Firstly I want to say sorry for what happened in Paris two weeks ago. My condolences to the families of those who were shot.
Shifts observed
• Translation of original notion
Translational approach
Sociocultural adaptation
Gloss: transcription of prepared
I VERY FEEL-SAD PARIS TWO WEEKS UP-UNTIL-NOW HAPPEN PITY-THEM SECOND PEOPLE-THERE DIE SHOOTX2 DIE FAMILY THEIRS (IX) THEY-FAMILY (IX) PITY-TO.
Back translation
I am very sad of what happened in Paris to weeks ago, my condolences to the families of those who were shot.
Shifts observed
• Omission
Translational approach
Pragmatic adaptation

Participant F

Source Text
<i>May I just begin by expressing my profound horror at what happened in Paris two weeks ago, together with untold sympathy for the grieving families and loved ones of those whose lives were so brutally extinguished?</i>
Gloss: transcription of unprepared target message
I INFORM TWO-WEEKS-AGO HAPPEN WHAT? FRANCE PARIS DANGEROUS WHY FAMILY DESTROY WHY BOMB HAPPEN PEOPLE DIEX3.
Back translation

I want to tell you. Two weeks ago, in Paris disaster took place and families were destroyed as bomb blasts killed many people.
Shifts observed
Omission
Translational approach
Pragmatic adaptation
Gloss: transcription of prepared
I WANT HEART-FEEL (explicitness change) AGO TWO WEEKS HAPPEN WHAT? PARIS BOMB-BLAST HOUSE B-A-T-A-C-L-A RESTAURANT BOMB-BLAST HAPPEN PEOPLE DIE X6 FAMILY SAD I HOLD-HAND.
Back translation
I want to send my condolences about what happened two weeks ago. In Paris at Batacla restaurant bomb blasts killed many people. I am sad for their families and am holding their hands.
Shifts observed
Explicitness change
Translational approach
Pragmatic adaptation

3. Text elements that meet the sociocultural criteria

Participant A

Source Text
<i><u>Your deliberations over the next two weeks will decide</u> the fate not only of those alive today, but also of generations yet unborn.</i>
Gloss: transcription of unprepared target message
NOW TWO WEEKS-FUTURE THEY DISCUSS-DISCUSS-DISCUSS-DISCUSS (explicitness change) WHAT? PEOPLE TODAY LIFE ALSO FUTURE GENERATION BORN-BORN-BORN WILL.
Back translation
These next two weeks they will discuss extensively what will affect people's lives today and also the

lives of generations that will still be born.
Shifts observed
• Explicitness change
Translational approach
Pragmatic adaptation
Gloss: transcription of prepared
WHO PUT-BACK-OF-MIND TWO WEEKS FUTURE ALL PEOPLE-COME-TOGETHER DISCUSS DISCUSS PLEASE PUT-IN-BACK-OF-MIND WHAT FUTURE CHILDREN
Back translation
Bear in mind these two weeks our future as you come together to discuss, remember the future of children.
Shifts observed
• Translation by paraphrase
Translational approach
Sociocultural adaptation

Participant B

Source Text
<i><u>Your deliberations over the next two weeks will decide</u> the fate not only of those alive today, but also of generations yet unborn.</i>
Gloss: transcription of unprepared target message
TWO WEEKS DISCUSSION (explicitness change) LIFE TODAY ALSO LATER BORN NOT-YET DECIDE FUTURE HAPPEN WHAT?
Back translation
These two weeks you will discuss the future lives of those today and those who are not born.
Shifts observed
• Explicitness change

Translational approach
Pragmatic adaptation
Gloss: transcription of prepared
TWO WEEKS FUTURE (SIGNED IN RIGHT SPACE) DISCUSS-DISCUSS (explicitness change) (MOVE TO NEUTRAL SPACE) CONFERENCE HERE (IX) (NEUTRAL SPACE) WE DECIDE THEM (PLACED RIGHT SPACE) TODAY ALSO WHO? FUTURE PERSON (PLACED IN SPACE IN FRONT OF SIGNER).
Back translation
These two weeks at this conference you will discuss and make decisions for people alive today and those people who will be alive in future.
Shifts observed
• Explicitness change
Translational approach
Pragmatic adaptation

Participant C

Source Text
<i><u>Your deliberations over the next two weeks will decide</u> the fate not only of those alive today, but also of generations yet unborn.</i>
Gloss: transcription of unprepared target message
DISCUSS (explicitness change) ISSUE THAT AIM WHAT?
Back translation
Your aim is here is to discuss issues.
Shifts observed
• Explicitness change
Translational approach
Pragmatic adaptation
Gloss: transcription of prepared

IMPORTANT DISCUSS (explicitness change) ISSUE TWO WEEK AHEAD DISCUSS
Back translation
You will be discussing very important issues these coming two weeks.
Shifts observed
Explicitness change
Translational approach
Pragmatic adaptation

Participant D

Source Text
<i>Your deliberations over the next two weeks will decide the fate not only of those alive today, but also of generations yet unborn.</i>
Gloss: transcription of unprepared target message
DISCUSS (explicitness change) WEEK-ONE-WEEK-TWO-WEEK-THREE FUTURE-PERIOD? DECIDE FUTURE WHO? LIFE BORN NOT-YET ALSO INCLUDE.
Back translation
You will discuss these two weeks the future of those alive and those yet to be born.
Shifts observed
Explicitness change
Translational approach
Pragmatic adaptation
Gloss: transcription of prepared
DISCUSS CONFERENCE DISCUSS DECIDE PEOPLE
Back translation
You will discuss at this conference and make decisions for people.
Shifts observed
Explicitness change
Translational approach
Pragmatic adaptation

Participant E

Source Text
<i><u>Your deliberations over the next two weeks will decide</u> the fate not only of those alive today, but also of generations yet unborn.</i>
Gloss: transcription of unprepared target message
TWO WEEKS DISCUSS TALK WILL DO WHAT DECIDE PEOPLE WHO LIFE THERE(IX) SECOND FUTURE GENERATION FUTURE
Back translation
These coming two weeks you will discuss and make decisions for people alive and for future generations.
Shifts observed
• Explicitness change
Translational approach
Pragmatic adaptation
Gloss: transcription of prepared
NOW-ONWARDS WEEK YOU (IX) DISCUSS (explicitness change) TALK PEOPLE LIFE THERE (IX) DECIDE YOURS (IX) LIFE THEIRS (IX) FUTURE DECIDE WILL THAT'S ALL? NO. SAME FUTURE CHILDREN LIFE THEIRS (IX) YOURS (IX) DECIDE WILL .
Back translation
From now onwards, you will discuss the lives of people who are alive. Will you make decisions of the future for those who are alive only? No you will also decide for the future children.
Shifts observed
• Explicitness change
Translational approach
Pragmatic adaptation

Participant F

Source Text
<i>Your deliberations over the next two weeks will decide the fate not only of those alive today, but also of generations yet unborn.</i>
Gloss: transcription of unprepared target message
WEEK WEEK TWO PERIOD YOU (IX) DECIDE (explicitness change)
Back translation
You will decide over these two weeks.
Shifts observed
• Explicitness change
Translational approach
Pragmatic adaptation
Gloss: transcription of prepared
YOU (IX) HERE RESPONSIBLE HEAVY-WEIGHT-ON-SHOULDER WHY (expansion).
Back translation
You are here with a heavy weight on your shoulders.
Shifts observed
• Expansion
Translational approach
Pragmatic adaptation

4. Strategies participants' implemented in the translation approach of metaphors

The absurd thing is that we know exactly what needs to be done; we know we cannot adapt

sufficiently to go on as we are not, nor can we build ourselves a new atmosphere.

Participant	A	B	C	D	E	F
Unprepared	Translation using a loan word and word without explanation	transliteration of original notion	Transliteration of original notion	Transliteration of original notion	Transliteration of original notion	Expansion
Prepared	Creation	transliteration of original notion	Transliteration of original notion and structural change by use of rhetorical question	Omission	explicitness change	Translation by cultural substitution

It is the premium we need to pay for our collective, long-term insurance policy.

Participant	A	B	C	D	E	F
Unprepared	Omission	transliteration of original notion	Omission	Explicitness change	Creation	Exoticism
Prepared	Creation	Explicitness change	Omission	Omission	Creation	Updating

If the planet were a patient, we would have treated her long ago.

Participant	A	B	C	D	E	F
Unprepared	Omission	transliteration of original notion	Transliteration of original notion	Transliteration of original notion	Transliteration of original notion	transliteration of original notion
Prepared	translation by paraphrase	Expansion	Transliteration of original notion	transliteration of original notion	transliteration of original notion	transliteration of original notion

Strategies participants used to deal with the antithesis as stylistic device are summarised as follows:

So today, after far too long an interval, you are all here to set us on the road to a saner future.

Participant	A	B	C	D	E	F
Unprepared	Translation by paraphrase	Translation by paraphrase	coherence change	transliteration of original notion	translation by paraphrase	Translation by paraphrase
Prepared	Translation by paraphrase	partial translation	translation by cultural substitution	explicitness change	transliteration of original notion	Translation by paraphrase

Your deliberations over the next two weeks will decide the fate not only of those alive today, but also of generations yet unborn.

Participant	A	B	C	D	E	F
Unprepared	Explicitness change	transliteration of the original notion	Translation by omission	transliteration of original notion	translation by paraphrase	explicitness change
Prepared	Omission	Explicitness change	Transliteration of original notion	Explicitness change	translation by paraphrase	omission due to coherence change

While the planet can survive the scorching of the earth and the rising of the waters, the human race cannot.

Participant	A	B	C	D	E	F
Unprepared	Translation by paraphrase	transliteration of the original notion	Translation by cultural substitution from spoken to visual (earth can continue, but people cannot live)	transliteration of original notion	Omission due to cognitive bottleneck	transliteration of original notion
Prepared	explicitness change	Explicitness change	Structure change through the use of a rhetorical question	Explicitness change	transliteration of original notion	structure change through the use of rhetorical question

So, I pray that in pursuing national interest you will not lose sight of the international necessity.

Participant	A	B	C	D	E	F
Unprepared	Expansion	Partial translation	Creation	Creation	Cognitive bottleneck Misinterpretation	translation by omission
Prepared	translation by less expressive equivalent	Updating	explicitness change	Creation	translation by paraphrase	Creation

Appendix B Expansion features analysis

1. Reiteration observed from the participants

Participant A: Unprepared

Governments collectively spend more than a trillion dollars every year on subsidies to energy, agriculture and fisheries.

GOVERNMENT WORLD COME-DOWN-ALL-TOGETHER PAY OVER TRILLION DOLLAR
EVERYDAY YEAR PAY PAY PAY

Reiteration observed – pay

Participant A: Prepared

Governments collectively spend more than a trillion dollars every year on subsidies to energy, agriculture and fisheries.

WORLD GOVERNMENT DIFFERENT-DIFFERENT-DIFFERENT COME-DOWN-TO MONEY
PAY HOW-MUCH? OVER TRILLION DOLLARS. PAY PAY FOR TREES CHOP CHOP TREE-
FALL-DOWN O-R SEA USE TOO-MANY.

Reiteration observed – different, pay and chop

Participant B: Unprepared

We lack only the will and the framework to use them wisely, consistently and at the required global scale.

NEED WHAT? FRAMEWORK WILLING WANT DO CLEVER MEASUREMENT DO.

Reiteration observed – do

Participant B: Prepared

The absurd thing is that we know exactly what needs to be done; we know we cannot adapt sufficiently to go on as we are, nor can we build ourselves a new atmosphere.

TOMORROW DO WHAT? KNOW DO WHAT. CAN CHANGE PERFECT CANNOT

Reiteration observed - do what

Participant C: Unprepared

So I can only urge you to think of your grandchildren, as I think of mine, and of those billions of people without a voice...

FUTURE CHILDREN FUTURE MAYBE YOU HAVE SAME FUTURE CHILDREN GRAND CHILDREN BORN WILL ONE SAME MINE GRAND CHILDREN BORN FINISH CHIDLREN THEY-THAT BUT FUTURE ADULTS...

Reiteration observed – future

Participant C: Prepared

So I can only urge you to think of your grandchildren, as I think of mine, and of those billions of people without a voice; those for whom hope is the rarest of sensations; those for whom a secure life is a distant prospect.

THIS IMPORTANT WHY? WOW YOUR FUTURE SAME PEOPLE BORN NOT-YET THEY FUTURE LIFE IMPORTANT-THEIRS YOU DISCUSS. ALSO MY GRAND CHILDREN YOUR GRAND CHILDREN SAME THINK THAT WOW THEY MANY PEOPLE WORLD MILLION THEY-LOOK-AT-YOU HOPE LITTLE FUTURE YOU DISCUSS THEY THINK DISAPPOINT-STUCK MEANING YOU IMPORTANT DISCUSS PRIORITY.

Reiteration observed – future and discuss

Participant D: Unprepared

So I can only urge you to think of your grandchildren, as I think of mine, and of those billions of people without a voice; those for whom hope is the rarest of sensations; those for whom a secure life is a distant prospect.

I SAY GRAND CHILDREN YOU THINK KEEP-BACK-OF-MIND SAME MINE KEEP-BACK-OF-MIND TWO PEOPLE VOICE HAVE-NO STAND-UP-FOR HOPE IMPORTANT CARE-FOR LIFE NOTHING? CANNOT DO?

Reiteration observed – keep in mind

Participant D: Prepared

<i>On an increasingly crowded planet, humanity faces many threats – but none is greater than climate change.</i>
--

IMPORTANT WORLD PEOPLE MORE-MORE HUMAN PERSON-THREAT HAVE THAT THREAT SPECIFICALLY WHAT? CLIMATE CHANGE HUMAN LIFE THERE DAMAGE CAN POSSIBLE?

Reiteration observed – threat

Participant E: Unprepared

<i>It threatens our ability to feed ourselves; to remain healthy and safe from extreme weather; to manage the natural resources that support our economies, and to avert the humanitarian disaster of mass migration and increasing conflict.</i>

WHY LIVE PEOPLE (IX) DAMAGE CAN SECOND MAYBE CAN WE HAVE FOOD GROW <u>CANNOT</u> HEALTH <u>CANNOT</u> WHY WEATHER BAD THERE (IX) HUMAN RESOURCES MANAGE ECONOMY GROW MAYBE <u>CANNOT</u> .
--

Reiteration observed – cannot

Participant E: Prepared

<i>So I can only urge you to think of your grandchildren, as I think of mine, and of those billions of people without a voice; those for whom hope is the rarest of sensations; those for whom a secure life is a distant prospect.</i>

SAME I HOPE YOU (IX) CHILDREN GRAND CHILDREN FUTURE THERE (IX) (IX) <u>KEEP-BACK-OF-MIND</u> SAME MINE FUTURE CHILDREN GRAND MINE <u>KEEP-BACK-OF-MIND</u> .
--

Reiteration observed – keep in mind
--

Participant F: Unprepared

--

So I can only urge you to think of your grandchildren, as I think of mine, and of those billions of people without a voice; those for whom hope is the rarest of sensations; those for whom a secure life is a distant prospect.

I THINK MOTIVATE YOU(IX) THINK WHAT YOURX3 (IX) CHILDREN THEIRS BORN WILL THINK FUTURE PEOPLE OPPRESSED-INSIDE EXPRESS CANNOT THINK HOPE NOTHING STRUGGLE THINK LIVE GOAL FAR REACH CANNOT THAT(IX) YOU CONSIDER MUST

Reiteration observed – think

Participant F: Prepared

Most of all, I urge you to consider the needs of the youngest generation, because none of us has the right to assume that “for our today they should give up their tomorrow.”

YOU PUT-IN-BACK-OF-MIND WHAT? THINK YOUTH AHEAD ADULTS THINK THEY LIFE HOW TIME NOW THEY GIVE-UP-DESTROY WHAT WE SAFE THAT DISCUSS MUST.

Reiteration observed - think

2. Contrasting as expansion feature

Examples of contrasting observed from the participants are tabled below:

Participant A: Unprepared

... nor can we build ourselves a new atmosphere.

WE KNOW NEW A-T-M-O-S-P-H-E-R-E BUILD CAN? CANNOT

Contrasting observed – Can we build a new atmosphere? No, we cannot build a new atmosphere.

Participant A: Prepared

We lack only the will and the framework to use them wisely, consistently and at the required global scale.

NEED WORLD MONEY 1.7 PERCENT SMALL-AMOUNT-GIVE THAT NEED ONLY BUT MOTIVATION USE HOW? NOTHING.

Contrasting observed - But do we have the passion to do so? No, we don't have the passion.

Participant B: Unprepared

<i>.. nor can we build ourselves a new atmosphere.</i>
--

ATMOSPHERE BUILD NEW CAN? IMPOSSIBLE.

Contrasting observed - Can we build a new atmosphere? No, we can't.
--

Participant B: Prepared

<i>... beyond which there is no recovery.</i>

DESTROY CLIMATE MEANING BACK FIX CAN? IMPOSSIBLE.

Contrasting observed - Can we then go back and change what was destroyed? No, we would not be able to.

Participant C: Unprepared

<i>.... nor can we build ourselves a new atmosphere.</i>
--

CAN MAKE-PLAN-DECIDE ATMOSPHERE THAT YOU FIX? STUCK CANNOT.

Contrasting observed - Can we build a new atmosphere whenever we decide to? No we cannot, we will be left disappointed.
--

Participant C: Prepared

<i>Most of all, I urge you to consider the needs of the youngest generation, because none of us has the right to assume that "for our today they should give up their tomorrow."</i>
--

SAME TODAY YOUTH GENERATION YOUTH THEY YOU SHRUG-YOUR-SHOULDERS THEY-SELF FUTURE YOU-RIGHT? NO.

Contrasting observed - Can we really shrug our shoulders to the needs of the younger generation? No, we cannot, we need to consider them in our decisions.

Participant D: Unprepared

... you must surely start the emergency procedures without further procrastination!

... PUT WILL EMERGENCY PUMP-CHEST DO BUT HUMAN-NOT DO NOTHING.

Contrasting observed - We would give CPR to a human, but we are not doing whatever we can to save the planet.

Participant D: Prepared

Most of all, I urge you to consider the needs of the youngest generation, because none of us has the right to assume that "for our today they should give up their tomorrow."

I-THINK IMPORTANT ASK YOU KEEP-IN-BACK-OF-MIND WEIGH-UP FUTURE CHILDREN? I-YOU THINK DECIDE HUMAN-RIGHT HAVE DECIDE FOR THEM PEOPLE THEY GIVE-UP TOMORROW (IX RIGHT) WE-ENJOY DO TODAY? NO.

Contrasting observed - Do we have a right to assume that they must give up their tomorrow for us? No, we don't have that right.

Participant E: Unprepared

... beyond which there is no recovery.

CHANGE OUR BEHAVIOUR ADAPT NOTHING? WORLD WEATHER DAMAGE CAN DAMAGE LIFE PERFECT CANNOT FUTURE.

Contrasting observed - We need to change our behaviour, if we do not change our behaviour, we will destroy the world.

Participant E: Prepared

Your deliberations over the next two weeks will decide the fate not only of those alive today, but also of generations yet unborn.

NOW-ONWARDS WEEK YOU DISCUSS TALK PEOPLE LIFE THERE DECIDE YOURS LIFE

THEIRS FUTURE DECIDE WILL THAT'S ALL? NO. SAME FUTURE CHILDREN LIFE THEIRS YOURS DECIDE WILL.

Contrasting observed - Are you only going to discuss the lives of people now? No, you also have to discuss the lives of future generations.
--

Participant F: Unprepared

<i>If, at last, the moment has arrived to take those long-awaited steps towards rescuing our planet and our fellow man from impending catastrophe, then let us pursue that vital goal in a spirit of enlightened and humane collaboration.</i>
--

FINAL ARRIVE WE DO ONE TWO THREE THAT YES WE WORLD TAKE WE SAFE DO WORLD-CARE CHANGE WE NOW AHEAD GOAL THIS WE MUST KNOW MIND-OPEN-REALISE WE PEOPLE IGNORE IGNOREINGNORE ? NO LINK PLAN TOGETHER

Contrasting observed - We must not discard and ignore one another, we must come together

Participant F: Prepared

<i>Most of all, I urge you to consider the needs of the youngest generation, because none of us has the right to assume that "for our today they should give up their tomorrow."</i>
--

YOU PUT-IN-BACK-OF-MIND WHAT? THINK YOUTH AHEAD ADULTS THINK THEY LIFE HOW TIME NOW THEY GIVE-UP-DESTROY? WHAT? WE SAFE THAT DISCUSS MUST.
--

Contrasting observed - Must they give up their future for us? No they must not.
--

3. Faceting as expansion feature

Examples of faceting observed from participants are tabled below:

Participant A: Unprepared

<i>Most of all, I urge you to consider the needs of the youngest generation, because none of us has the right to assume that "for our today they should give up their tomorrow."</i>
--

WE ASSUME LEAVEFINE TODAY LIFE PERFECT BUT TOMORROW LOOK-OUT-THERE-

DON'T-KNOW.

Faceting observed - ASSUME LEAVE TODAY FINE
--

Participant A: Prepared

<i>It threatens our ability to feed ourselves; to remain healthy and safe from extreme weather; to manage the natural resources that support our economies, and to avert the humanitarian disaster of mass migration and increasing conflict.</i>

ALSO ONE BIG PRIORITY IMPORTANT PROBLEM WHAT? WORLD COUNTRY PEOPLE MIGRATE MOVE OVER WAR DO. BUT TRUE WORLD DAMAGE WHO? US.

Faceting observed - ONE, BIG, MAIN, PRIORITY, IMPORTANT
--

Participant B: Unprepared

<i>You, Ladies and Gentlemen, have the power to put her on life support, and you must surely start the emergency procedures without further procrastination!</i>
--

YOU WOMAN MAN EMERGENCY PROCESS FAST START MUST DELAY NO YOU-GIVE LIFE BACK.
--

Faceting observed – FAST, URGENTLY, NO DELAY

Participant B: Prepared

<i>... a secure life is a distant prospect.</i>

HAVE LIFE PERFECT SAFE-FUTURE RIGHT GOOD FUTURE DREAM PERFECT ONLY.

Faceting observed – PERFECT – RIGHT - GOOD – PERFECT

Participant C: Unprepared

<i>On an increasingly crowded planet, humanity faces many threats ...</i>

NOW WORLD AREA WORSE HUMAN HAVE PROBLEM MANY 1, 2, 3, ETC 1 IMPORTANT PROBLEM BIG WHAT
--

Faceting observed – WORSE- PROBLEM- IMPORTANT PROBLEM BIG
--

Participant C: Prepared

<i>I am enormously touched to have been invited by President Hollande to say a very few words at the start of this crucially important conference.</i>
--

PERSON-I FEEL WOW THAT-PERSON-THERE PRESIDENT COUNTRY FRANCE HE- INVITE-ME I-COME HERE CONFERENCE IMPORTANT PEOPLE-INFRONT-OF-ME-SITTING HE-INVITE-ME I STAND SPEECH OPEN I-FEEL WOW.

Faceting observed – CONFERENCE – PLACE OF IMPORTANT PEOPLE IN FRONT – SITTING – PLACE WHERE I STAND SPEAK.
--

Participant D: Unprepared

<i>... together with untold sympathy for the grieving families and loved ones of those whose lives were so brutally extinguished.</i>

BAD MY HEART-SAD FRENCH YOU HOUR HEART-SAD WITH SUPPORT.
--

Faceting observed – BAD – HEART-HEART-WITH-SUPPORT

Participant D: Prepared

<i>Most of all, I urge you to consider ...</i>
--

I-THINK IMPORTANT ASK YOUKEEP-IN-BACK-OF-MIND CONSIDER ...
--

Faceting observed – THINK, KEEP-IN-MIND, CONSIDER
--

Participant E: Unprepared

<i>I am enormously touched to have been invited by President Hollande to say a very few words at the start of this crucially important Conference.</i>
--

PRESIDENT H-O-L-L-A-N-D INVITE-ME-TO COME STAGE SPEECH WHY IMPORTANT CONFERENCE HERE START.
--

Faceting observed – INVITE-ME, COME, I-CONFERENCE-HERE

Participant E: Prepared

<i>May I just begin by expressing my profound horror at what happened in Paris two weeks ago, together with untold sympathy for the grieving families and loved ones of those whose lives were so brutally extinguished?</i>
--

I VERY FEEL-SAD PARIS TWO WEEKS UP-UNTIL-NOW HAPPEN PITY-THEM SECOND PEOPLE-THERE DIE SHOOTX2 DIE FAMILY THEIRS (IX) THEY-FAMILY (IX) PITY-TO.
--

Faceting observed – SAD, PITY-THEM, CONDOLENCES-TO-THEM
--

Participant F: Unprepared

<i>I am enormously touched to have been invited by President Hollande to say a very few words at the start of this crucially important conference.</i>
--

I VERY (SHOW PROUD AND HONOUR) HERE COME I LITTLE SPEECH START VERY IMPORTANT CONFERENCE MEETING MANY-DELEGATES-IN-THE AUDIENCE.
--

Faceting observed – CONFERENCE – MEETING – MANY-DELEGATES –IN-AUDIENCE

Participant F: Prepared

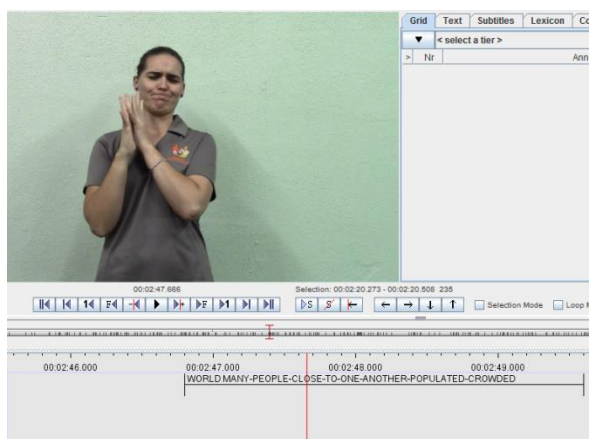
<i>My heart is with the courageous French people in their hour of anguish.</i>
--

I HOLD-HANDS HEART-LINK PEOPLE SAD HAVE FRANCE COMMUNITY ENCOURAGE HEART-SORRY.

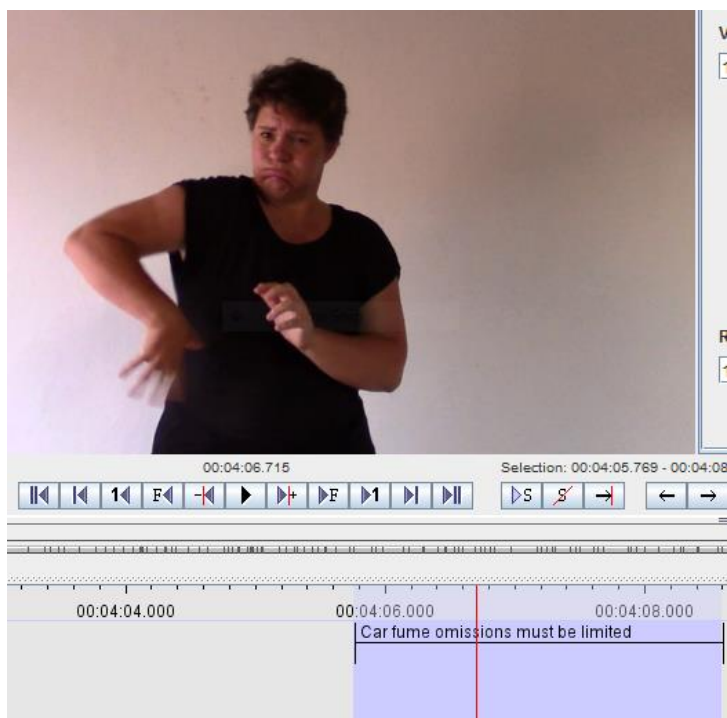
Faceting observed – I-HOLD-HANDS, HEART, ENCOURAGE, HEART-SORRY.

4. Explain by example as expansion feature

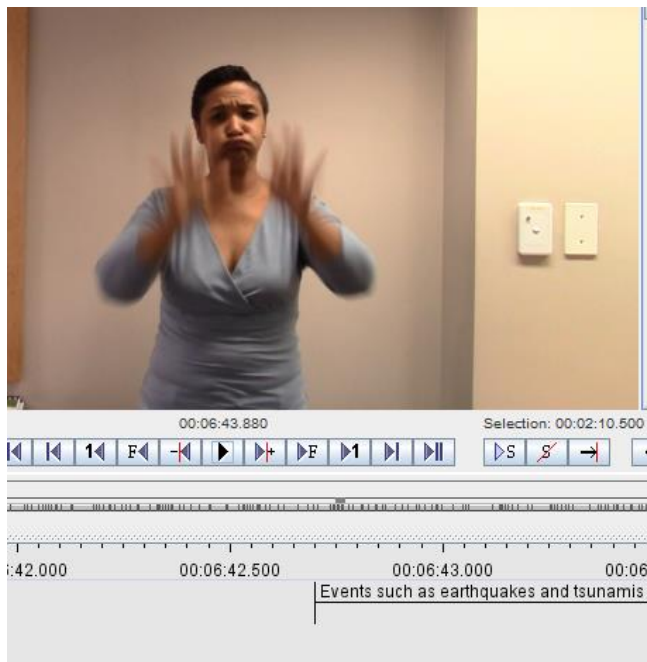
Below are examples of explain by example as observed in ELAN from the participants:



Overpopulation – too many people, too close to one another in the world



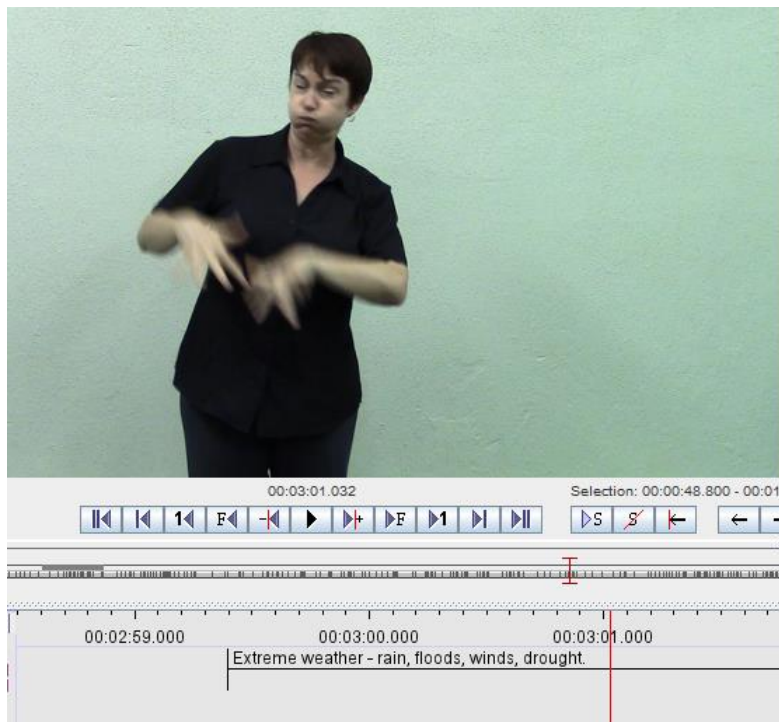
Carbon emission – dirty fumes coming from cars must be limited



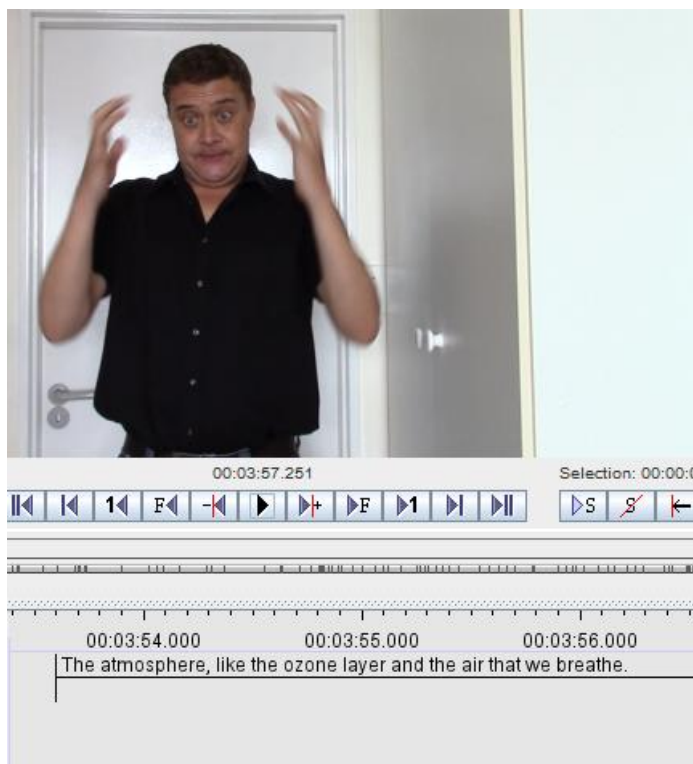
Hostile weather conditions – earthquakes and tsunamis



Carbon emission – dirty fumes in the atmosphere



Extreme weather conditions – floods and strong winds etc.



The atmosphere – air that we breathe

5. Scaffolding as expansion feature

Examples of scaffolding observed from participants are tabled below:

Participant A: Unprepared and prepared

<i>Eighty of those hundred months have now passed, so we must act now.</i>
--

Scaffolding observed – back translation: Only 20 months are left

Participant B: Unprepared

<i>You, Ladies and Gentlemen, have the power to put her on life support</i>

YOU WOMAN MAN EMMERGENCY PROCESS START MUST DELAY NO YOU-GIVE LIFE BACK.
--

Back translation – You ladies and gentleman must start the emergency procedure without any delay to give the earth its life back.
--

Scaffolding observed - give the earth its life back.

Participant B: Prepared

<i>People without a voice</i>

PEOPLE VOTE CANNOT.

Back translation – people who cannot vote
--

Scaffolding observed – those who are not able to vote
--

Participant C: Unprepared

<i>The ability to feed ourselves</i>

PLANT-FOOD-IN-PLANTATION GROW THAT STUCK WHY RAIN NOTHING

Back translation – the ability to cultivate food, but it will not grow without any rain.

Scaffolding observed – planting food, drought destroying crops.

Participant C: Prepared

May I just begin by expressing my profound horror at what happened in Paris two weeks ago,

I THINK FIRST EXPLAIN WOW TWO TWO WEEKS AGO THERE COUNTRY FRANCE
PARIS P-A-R-I-S

Back translation I think I should first explain what happened in the country France, the city Paris, two weeks ago.

Scaffolding observed – Paris is a city in France

Participant D: Unprepared

Nor can we build ourselves a new atmosphere

ATMOSPHERE WORLD AIR BUILD NEW CANNOT AVOID WEAHTER MUST REDUCE

Back translation – We cannot build a new atmosphere, which is the air around the world, we must reduce global warming.

Scaffolding observed – the atmosphere is the air around the earth.

Participant D: Prepared

May I just begin by expressing my profound horror at what happened in Paris two weeks ago,

I-THINK START SAY WHAT? PARIS TWO WEEKS AGO HAPPEN BAD BOMB

Back translation – I think I should start by saying something about the terrible bomb blasts that happened in Paris two weeks ago.

Scaffolding observed – Bombs were detonated in Paris

Participant E: Unprepared and prepared

May I just begin by expressing my profound horror at what happened in Paris two weeks ago,

FIRST I FEEL-HEART-ACKNOWLEDGE INFORM PARIS AGO TWO WEEK HAPPEN BAD WHY SECOND FAMILY PEOPLE WHO DIE THEY-OTHERS BAD SHOOT-SHOOT DIE HEART-SORRY.

Back translation – first I would like to acknowledge the terrible occurrence in Paris two weeks ago. People lost their families and loved ones after terrorist shootings. My sincere condolences.

Scaffolding observed – terrorist shootings in Paris.

Participant F: Unprepared

May I just begin by expressing my profound horror at what happened in Paris two weeks ago, together with untold sympathy for the grieving families and loved ones of those whose lives were so brutally extinguished?

I INFORM TWO-WEEKS-AGO HAPPEN WHAT? FRANCE PARIS DANGEROUS WHY FAMILY DESTROY WHY BOMB HAPPEN PEOPLE DIEX3.

Back translation – I want to tell you about the destruction of life owing to bomb blasts where many people lost their lives.

Scaffolding observed – bomb blasts in Paris

Participant F: Prepared

May I just begin by expressing my profound horror at what happened in Paris two weeks ago, together with untold sympathy for the grieving families and loved ones of those whose lives were so brutally extinguished?

I WANT HEART-FEEL AGO TWO WEEKS HAPPEN WHAT? PARIS BOMB-BLAST HOUSE B-A-T-A-C-L-A RESTAURANT BOMB-BLAST HAPPEN PEOPLE DIEX6 FAMILY SAD I HOLD-HAND.

Back translation – I wish to share my condolences with the families who lost their loved ones during the Paris bomb blasts at House Batacla restaurant two weeks ago.

Scaffolding observed – bomb blasts occurred at House Batacla restaurant

6. Describe then do as expansion feature

Examples of describe then do as observed from the data in ELAN are illustrated below:





