

**THE TRANSLATABILITY OF ENGLISH ACADEMIC DISCOURSE
INTO ISIZULU WITH REFERENCE TO THE DISCOURSE OF
MATHEMATICS**

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DECLARATION

Submitted in fulfillment/partial of the requirements for the degree of Master of Art the Graduate Programme in Applied Language Studies, University of KwaZulu-Natal, Pietermaritzburg, South Africa.

I declare that this dissertation is my own unaided work. All citations, references and borrowed ideas have been duly acknowledged. It is being submitted for the degree of Master of Art in the Faculty of Humanities, Development and Social Sciences, University of KwaZulu-Natal, Pietermaritzburg, South Africa. None of the present work has been submitted previously for any degree or examination in any other University.

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ABSTRACT

This research investigates the translatability of English Academic Discourse into isiZulu with specific reference to the discourse of Mathematics. The focus is on the translation processes and strategies used in the translations to maintain the core meaning of concepts. The reason for the research is that African-language speaking learners experience problems in understanding and using crucial academic concepts in English and the language that contextualizes them. The research thus analyses translated texts from the mathematics and mathematical literacy learning areas selected from a Multilingual Teachers' Resource Book written for learners at the GET Level (Grade 7-9) in order to explore the process of translation by examining the isiZulu translated texts (target texts) of English source texts, and their subsequent back-translations. The main focus is on the quality of the translation and the strategies translators use in order to retain the core meaning of the original text, especially when languages are non-cognate.

The study found that although formal equivalence between non-cognate languages is difficult to achieve, functional or near-equivalence is not always appropriate either, especially in specialized discourses of a scientific or technical nature. The solution lies in building up the technical discourse in the African Languages. This research also explores possible limitations in the translator-training offered for bilingual translators of English and isiZulu and leads to recommendations as to what the translator-training should focus on in the long term. Findings from this research should contribute to the language policy debate on isiZulu as a viable medium of instruction as well as to the process of terminology development.

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Glossary of terms

BT - Back Translation

CALP - Cognitive Academic Language Proficiency

ESL - English Second Language

FET - Further Education and Training

GET - General Education and Training

HLP - Home Language Project

L1 - First Language

LOLT - Language of Learning and Teaching

MOI - Medium of Instruction

PANSALB - Pan South African Language Board

PT - Primary Translation

RNCS – Revised National Curriculum Statement

SFG – Systemic Functional Grammar

SL – Source Language

TL – Target Language

CHAPTER 1

1.1 MOTIVATION FOR STUDY

The Constitution of the Republic of South Africa 1996, section 6, declares the promotion of multilingualism in the country. In the KwaZulu-Natal province the official languages are English, Afrikaans and isiZulu. English and Afrikaans are well-developed languages in terms of academic discourse. IsiZulu, on the other hand, remains underdeveloped in the academic context. For example, terms like *bearing*, *geometric* and *grid*, which are terms found in the Mathematics field, do not have equivalents in isiZulu. Translators struggle to find equivalents or near synonyms because they do not exist in the target language, which makes it even more difficult for translators to appropriately relate these terms to something they are familiar with. One of the reasons for the underdevelopment of the African languages is that the use of mother tongue as a language of instruction was limited to the first four years of schooling by the Bantu Education Act of 1953. Therefore the development of cognitive academic language was not continued as African languages were perceived to be inadequate for use as languages of learning (Van Zyl 1961 cited in Mahlalela and Heugh 2002).

The Constitution of the Republic of South Africa (1996:4) declares that, “All languages must enjoy parity of esteem and must be treated equitably.” For this purpose, the Pan South African Language Board (Pansalb) was established to promote and create conditions for the development and use of all official languages equally (The Constitution of RSA, 1996). Various governmental departments, such as the Department of Arts and Culture in KwaZulu-Natal, Municipalities and other sectors such as ABSA bank have

already begun to exercise this right of language equity by publishing documents in the three official languages of the province, namely, English, isiZulu and Afrikaans. However, this exercise of right is still not evident in the educational and academic domains as English still remains the principal medium of instruction in the majority of schools, where subjects such as Mathematics and Natural Sciences are learnt in English and the practicality of learning such subjects in a mother tongue language remains in question.

There is a growing debate on the use of African languages as languages of learning or mediums of instruction. For this reason this research examines the translatability of English Academic Discourse in terms of how English texts translate into isiZulu by identifying concepts that do not translate easily and accurately between the two languages; by identifying difficulties and how meaning is transferred from the original text; the causes of difficulties (if any) when transferring from the original text into the target and, lastly, finding the reasons for the linguistic choices made by the translators. This research also deals with translatability as it is linked to the development of concepts through language which, in turn, is linked to CALP which is necessary if African languages are to be used as MOI.

1.2 BACKGROUND TO RESEARCH

During the pre-apartheid regime, terminology in African languages had been carried out in the period of 1928-1955 even though that terminology has not been used since the publication of the Bantu Education Act of 1953 and needs to be re-used and standardized

if African languages are to be developed as languages of learning (Mahlalela and Heugh 2002). Alexander (2003:12) argues that during the pre-apartheid period, African languages were already in use for the purpose of developing literacy which subsequently facilitated a smooth transition into English and Afrikaans literacy.

Prior to the Constitution of the Republic of South Africa (1996), African languages were not seen to be appropriate languages for use as LOLTs, with the result that there was little or no further development of these languages in technical, academic and scientific fields (Mahlalela & Heugh (2002) citing Van Zyl (1961)). The reason for this was that there was little time spent in the learning and acquisition of Cognitive Academic Language Proficiency (CALP) in the African languages in schools, as the main focus of learning was on English and Afrikaans. Alexander (2003) states that:

Today, still, one of the most difficult tasks that confront progressive educationalists in South Africa is the rehabilitation of mother tongue education not only as a valid education strategy but as the most likely strategy to redress the educational imbalances that we have inherited from the past. Paradoxically, the only children who enjoy all the advantages of mother tongue education from the cradle to the university and beyond are in fact L1-speakers of English and Afrikaans. (Alexander 2003:14-15)

His utterance makes reference to the language policy of the Apartheid Era.

South Africa today is faced with problems of re-dressing the language imbalances caused by the apartheid regime which is one of the reasons of the poor performance of the Grade 12 learners who find English to be a barrier to understanding technical terms learnt in their curriculum. Wildsmith and Gordon (2006) reported considerable resistance to the

learning in African Languages by teachers and learners in schools as the level of proficiency of African teachers was perceived to be low and therefore causing resistance to using African Languages as Medium of Instruction (MOI). It is therefore difficult for teachers to teach science and other subjects in African languages if they do not have the training or experience of using African languages for learning.

1.3 EXISTING RESEARCH

Various tertiary institutions have issued language policies which foresee the provision of African languages as MOI (University of Witwatersrand, University of KwaZulu-Natal and other tertiary institutions). The following studies have all carried out research in some form on the use and development of the African Languages in Education. Wildsmith-Cromarty (2008) reports on a recent study on the Home Language Project (HLP) in Johannesburg, which “focused on providing cost-effective home language maintenance for African language learners in school. The project provided a Reading Programme and library services and used bilingual materials to teach technical concepts.” The findings were positive as learners found their languages useful for learning school subjects. (Rodseth and Rodseth 2004 cited in Wildsmith-Cromarty (2008)).

The above study successfully demonstrated how the use of African languages can assist the learners’ understanding of difficult concepts and improve their level of performance in schools. This then calls for more projects on teacher training in order to assist both teachers and learners to use their home languages in classrooms.

Yet another study involved the translation into the home language of core curriculum concepts in Mathematics and Science in order to create a Multilingual Resource Book (Young et al. 2005) for teachers which could address the problems that African teachers experience when trying to teach Mathematics and Science concepts to their learners in English, and the language used to describe the specialized terminology in the classroom.

The Resource Book (Young et al. 2005) was formed because:

South African learners' poor performances in 1995 and 1999 TIMSS (International Mathematics and Science Surveys) have in large part been ascribed to problems many learners and educators experience when studying or teaching these subjects through English when it is not their first language. Young et al. (2005:viii)

The research done by Young et al in 2005 revealed that, "If learners and educators understand these concepts in their own languages, they can apply such understanding to learning and teaching these subjects through English as the language of learning." (Young et al 2005:viii). Because of poor performances by the learners, 56 difficult concepts in the fields of Mathematics and Science were translated into IsiZulu, isiXhosa and Afrikaans to assist teachers and learners understand them better.

The Multilingual Resource Book (Young et al. 2005) was developed for teachers because of a belief that access to the concepts through the first language would facilitate understanding. The book covered four languages (isiXhosa, isiZulu, Afrikaans and English), and was intensely workshopped with in-service teachers before publication. The isiXhosa and isiZulu translations were not back-translated into English, however, with the result that they were not checked for accuracy. This is an omission that the present study

will address, by probing deeply into the choices made by the original translators of the Home languages, and the way in which these choices were translated back into English by the back-translators.

Wildsmith and Gordon's (2006) research study focused on the effects of the use of the home language on teachers' and learners' understanding and use of core concepts in Mathematics and Science at the FET phase, in contexts where the language of instruction is English. Teachers who had learnt Mathematics and Science through English as the medium of instruction found it difficult to start teaching these subjects through isiZulu. It also revealed that teachers felt it was difficult to start teaching these concepts through the first language when the language of assessment was English. These findings underscore both teachers' and learners' difficulty in comprehending academic discourse in isiZulu, including terminology, within a specialized discourse such as Mathematics and Science, and that many of the coined terms by the translators were not familiar to the teachers for use in the classroom. The findings of the latter study motivates for further research into the translatability of English academic texts into isiZulu.

Other recent initiatives have focused on the further development and use of African languages in the field of Education, such as Pare's (2006) study at the University of Pretoria, which focused on the development of scientific terms in Physics and Chemistry at tertiary level. This study revealed that students found bilingual materials more useful than monolingual materials in their languages as they found the terminology difficult to understand.

Another study focused on the understanding of key concepts drawn from three Learning Areas in the South African Revised National Curriculum: Language, Literacy and Communication; Mathematics and Mathematical literacy and Natural Sciences (Waner 2002, Jordaan and Suzman 2002). The aim of this study was to ascertain the effects of English as MOI on the Home Language and to find out how the key concepts identified from the areas translated into isiZulu. The key concepts were identified from the three selected learning areas and built into test items in English which were then used to create an isiZulu version of the test, through translation by isiZulu mother-tongue experts, with back-translation into English to ensure validity of the items. The findings revealed that the proficiency levels of isiZulu learners in both their home language and in English were not as high as they should be for academic learning and that the proficiency levels were found to be dependent on the degree of exposure to each language.

If the proficiency levels of isiZulu learners in English and isiZulu are dependent on language exposure, then CALP has to be developed in both isiZulu and English in order for the isiZulu learners to be able to learn key discipline concepts in their mother tongue. It may be difficult for the isiZulu learners to learn these concepts when a language like isiZulu lacks equivalence of terms (Waner 2002) and has an underdeveloped lexicon, especially in a learning field such as Mathematics and Science, where specific terms are used. This research, however, will explore the translatability of English academic text into isiZulu academic text by also examining how academic discourse is constructed by the translators into the target language.

Jordaan and Suzman's (2002) and Waner's (2002) study raised questions about the capacity of African languages to carry academic content. Many arguments against the use of African languages as languages of learning have been raised (Mahlalela & Heugh 2002) and some of them include the problem of lack of translation equivalence between English and the African languages; the underdevelopment of the lexicon and standardization as opposed to dialectal variety (Foley 2002, Murray 2002). Because of the perceived problems in the literature regarding the use of African languages as languages of learning, it is crucial to investigate what African languages can carry in terms of concepts in academic and in technical discourses.

As translation of English academic texts into African languages is questionable, helpful translation methods have been proposed, such as those found in Gauton and Schryver (2004:148), who have provided methodology that could be applied successfully to languages such as isiZulu. As isiZulu seems to lack terminology in specialized subject fields, Gauton and Schryver (2004) demonstrated how isiZulu translators can use a methodology similar to the computerized corpora used by English and French translators to solve the problem of non-equivalence.

The first case involved the creation of multilingual corpora, consisting of a Zulu corpus containing 7 698 tokens, taken from 12 booklets on HIV/AIDS which were aimed at children between 8-12 years. The corpus had been translated into isiZulu from English by the University of Pretoria. The text dealt with SA issues such as Nkosi Johnson who was

an AIDS activist, transmission of HIV/AIDS from mother to child, and lack of knowledge and myths about HIV/AIDS.

There was also an English corpus of 10 426 tokens culled from the internet which contained information on HIV/AIDS aimed at children. A word list was formulated out of the corpora in order to eliminate words that were unusual. The word lists were compared and used to identify translation equivalents between English and isiZulu. They found that for 71% of the Zulu terms, translation equivalents recurred within the first 100 English key words.

The study also revealed that when using these corpora to find isiZulu translation equivalents for English terms, 36 percent of the English terms occurring within the first 100 key words, found translation equivalents within the first 100 Zulu keywords (Gauton and Schryver 2004).

The methods that they found useful in overcoming the perceived lack of translation equivalents are as follows:

- (a) Consultation of existing dictionaries of the language;
- (b) Sourcing existing term lists that deal with the particular subject field;
- (c) Finding parallel texts, which they explained as finding any existing Zulu texts in the same subject field as in the one in question;
- (d) Coining of terminology by attempting to find a translation equivalent for the term closely related to African languages, determining the exact meaning of

the term, familiarizing oneself with the principles of the term and the coining of words in the particular target language, consulting field experts, and recording of all terms for re-use in other translation projects.

These methods of translating are very different to those of Vinay and Darbelnet (see 2.2), and they seem not to encourage borrowing or transposition as they talk more about using the resources available in the target language rather than in other languages. With reference to the studies mentioned above, this research will therefore explore how core meaning is expressed and retained (if retained) and how it differs (if it differs) in the translations and how the semantic content between English and isiZulu is similar or different.

1.4 AIMS OF STUDY

The main aim of this study is to examine the translatability of English Mathematical Discourse into isiZulu, mainly focusing on the translation processes and strategies used by the translators to retain the core meaning of concepts, and the effects of the lexical choices made by the translators on the core meaning of the text. This is done through the analysis of a small sample of academic discourse selected from the isiZulu translation of content drawn from the Mathematics learning area (see Appendix I). This text has been selected for its technical items with the aim of exploring the notion of *equivalence* in relation to loss of meaning intended in the original text.

A subsidiary aim is to ascertain which type of equivalence is more relevant to the translation of technical, specialized texts, i.e formal equivalence (Catford 1965) which relies more on textual equivalence (source text based), or dynamic equivalence (Nida and Taber 1969) which is audience orientated (target audience based).

As equivalence can be problematic in the translation of two different languages, this study also aims to find out how translators coped with the difficulty of creating near equivalents by examining the strategies used such as word-coinage, transliteration or borrowing and the effect all this has on the transfer of core meaning across texts in translations.

This research thus explores, through analysis of texts, questionnaires and semi-structured interviews, how translators dealt with these gaps and cultural differences in their translations. This aspect of the analysis also reveals whether there was any divergence from the source text in terms of meaning and in which respects; whether the back-translations of the translated texts differ from the source text and, if so, how; how different back-translations of the same primary translation differ from one another; which translation strategies were used most frequently by the translators when they encountered difficulties in terms of non-equivalence in terminology, and how the intended meaning of the source text is thus affected.

1.5 RESEARCH DESIGN

This research uses a non-experimental approach which may be described as exploratory-descriptive-interpretive, and which yields qualitative data. The data were obtained from two main sources: text analysis and semi-structured interviews. The text analysis was based on the translations and back-translations of a selected text drawn from the Mathematics and Mathematics Literacy Learning areas. The current text was taken from Unit 10 of the Multilingual Resource Book: Understanding Concepts in Mathematics and Science for teachers (Young et al. 2005).

The text was then analysed according to criteria drawn from contrastive text analysis (James 1980) and Functional grammar (Halliday 1985). The translations into isiZulu were then compared with each other and with the source text in terms of loss of core meaning, choice of terminology and structural and functional equivalence. This approach is applied because it deals with meaning at a deep level in order to see where meanings differ in terms of a functional analysis which examines processes, participants and circumstances. Structural aspects of grammar are analysed by examining equivalence in terms of qualifiers, modifiers, active and passive voice, and connectors and verbal extensions (Doke 1997; Bloor and Bloor 1995).

Contrastive text analysis (James 1980) examines how meaning equivalence is expressed in the translations when comparing non-cognate languages, focusing mainly on the techniques used in the translations to select meaningful and appropriate terminology, e.g. coined and borrowed terms, literal or free translation (Vinay and Dalbernet, 2000). An

examination of the use of discourse markers reveals how connectors are used to express meaning as well as translator differences in the use of connectors, conjunctions, prepositions and other markers.

1.6 STRUCTURE OF DISSERTATION

Chapter 2 provides a review of the literature relevant to the various aspects of the study in terms of translation equivalence across different languages including an examination of translation theory, contrastive text analysis and functional-grammatical analysis.

Chapter 3 provides in detail the research methodology used in this study, indicating how this study was designed, and how data were collected and analysed.

Chapter 4 provides a contrastive text analysis, applying the Functional Grammar approach (Doke1997) and Systemic Functional Grammar (Halliday 1985) approach.

Chapter 5 provides the findings of this study, and Chapter 6 contains the Conclusion and Recommendation.

CHAPTER 2

LITERATURE REVIEW ON TRANSLATION AND TRANSLATABILITY

This chapter looks at translation theories of textual equivalence, translation methods and the use of systemic functional grammar as the method of analyzing the translated texts.

The analytical framework for this research is based on theories of translation and Systemic Functional Grammar (SFG). This research is constructed on different definitions of translation given by writers and how the translation process is carried out. This chapter thus describes two types of translation equivalence, formal and functional equivalence, translation processes and SFG.

2.1 TRANSLATION EQUIVALENCE

2.1.1 Formal or textual equivalence

Jacobson (cited in Venuti 2000:114) defines 3 types of translation. These include *intralingual translation*, defined as “an interpretation of verbal signs by means of other signs of the same language”; *interlingual translation*, defined as “an interpretation of verbal signs by means of some other language” and *intersemiotic translation*, defined as “an interpretation of verbal signs by means of signs from nonverbal sign systems”. This research focuses on the second type of translation, *interlingual translation*, because it aims at examining the translatability of one language into another language.

Bell (1991) and Catford (1965) in their definitions of translation talk about *textual equivalence* between the languages translated. For example, Bell (1991:20) defines translation as “the expression in one language (or target language) of what has been expressed in another, source language, preserving semantic and stylistic equivalences.” In a similar vein, Catford (1965:30) defines translation as “the replacement of textual material in one (SL) by equivalent textual material in another language (TL)”.

Catford’s (1965) definition assumes a fair amount of formal correspondence between the languages in question. However, such definition limits itself to languages where equivalent textual material is easy to find, for example, in languages of the same family such as the Nguni languages. Equivalent textual material works hand in hand with finding equivalent terms. It is not possible to find *equivalent* textual material when terms of reference do not exist in the target language or in translator’s knowledge/ experience because of cultural differences.

Fawcett (1997:55) states that: “Catford is not unaware that his definition of textual equivalence poses problems. The concept of ‘sameness of situation’, as he admits is a difficult one, especially when different cultures are involved”. Although Catford (1965) admits this, as Fawcett (1997) indicates, it is crucial that in defining translation, cultural differences must be considered as having an impact on the process of translation.

Hatim (2001:14) comments on Catford’s definition by stating that, “According to Catford, we do not ‘transfer’ meaning between languages; we merely ‘replace’ a source

language meaning by a target language meaning that can function in the same way in the situation at hand.” Hatim’s comment clearly articulates what Catford understands translation to be and the terms (‘transfer’ and ‘replace’) indicate that Catford’s definition focuses more on the text rather than on meaning.

Bell’s (1991:20) definition, on the other hand, does not consider that languages are unique in their own ways; they differ in style and in the expression of meaning. Preserving semantic and stylistic equivalencies is possible between languages of the same family but not necessarily of different families. The problem with preserving semantic and stylistic equivalencies between non-cognate languages is that often there are differences of both a semantic nature such as complex meaning and a syntactic morphology, which is the case with isiZulu.

Formal equivalence in translation is difficult to achieve between non-cognate languages where a word-for-word translation (literal translation) is required because there are differences in the form of linguistic units, e.g. morphemes and other grammatical units, such as phrase and sentence structure, etc. In fact, it could lead to a meaningless translation which is not comprehensible because some linguistic forms may be found to be inappropriate in the target language. For example, a phrase *lines of the direction* was back-translated into the source language as *the directional line*. In this case, the back-translator followed the phrase structure used in English, although the construction of the phrase remained meaningless in the source language.

Although textual, structural and stylistic equivalence, as in Bell's (1991) definition, may be difficult to achieve in languages with different cultures and which are non-cognate, Dlodlo (1999) suggests that suitable equivalents nevertheless need to be found in African languages as certain lexical items have acquired distinct scientific meanings in English. He further argues that appropriate and equivalent terms for these scientific meanings need to be drawn, not from the European languages, but from African languages themselves. Often, translations into African languages involve under-differentiation where a term in the Home languages covers two or three distinct meanings in English. In languages that are close culturally, such as isiZulu and isiXhosa, one can expect closer equivalents, as Dlodlo (1999) suggests. However, the problem lies in languages where distances are greater like English and isiZulu; one can expect to find the greatest "gaps" or "loop holes" in equivalence.

Commenting on translatability, Jacobson (2000:146) states that:

Any comparison of two languages implies examination of their mutual translatability; widespread practice of interlingual communication, particularly translating activities, must be kept under constant scrutiny by linguistic science. It is difficult to overestimate the urgent need for and the theoretical and practical significance of differential bilingual dictionaries with careful comparative definitions of all the corresponding units in their intention and extension.

Jacobson's statement also highlights the fact that it is important for translators to have expert knowledge of *both* languages as it is often difficult to find the corresponding terms for the intended meaning. This holds implications for the development of adequate

resources for translation between languages such as English and isiZulu which are non-cognate.

As Jacobson (2000) points out, one cannot overestimate the urgent need for bilingual dictionaries with careful comparative definitions of corresponding units. Both isiZulu and English have many terms which belong to what Sanders and Nhlapho (1993) call ‘paradoxical jargon’. There are some words that carry different meanings depending on the context of the text. For example, *power* and *force* are described as *amandla* in isiZulu. It may be difficult to choose the correct isiZulu equivalent for the English term without knowledge of the range of meanings carried by the term. This is where an adequate bilingual dictionary with sufficient contextual description of terms is necessary. The back-translated texts examined in this research show whether the choice of terms in the primary translated texts, are the appropriate terms to convey the core meaning of the source texts.

This study examines the type of translations created, examining the differences between *formal equivalence* (“closest possible match of form and content between ST and TT”, Hatim and Mason, 1990:7) which is text-based; and *dynamic equivalence* (“principle of equivalence of effect on the reader”, Hatim and Mason 1990:7), which is target-based, especially in the type of discourse found in the learning areas under study.

The challenge in African languages is the meaning of equivalence in translation, especially for scientific or technical discourse. Although *dynamic equivalence* might be

an option for translation between non-cognate languages, it may not be an appropriate approach for Scientific or Technical discourse, which requires specific and precise translation because it shifts more to meaning orientated translation rather than to textual orientated translation. *Dynamic equivalence* might work in the translation of the Bible but not in Scientific discourse because of precise translation; therefore, the solution is that African Scientific discourse should be created in the African languages. The problem of translation equivalence is one of the limitations attached to the capacity of African languages to carry academic content (Jordaan and Suzman 2002; Waner 2002).

In addition, in languages where there is no full equivalence of structure between the source and the target text, core concepts expressed as discrete words in the source language may need a lengthy description with contextually related examples in the target language. The structural patterns of one language such as the target language may differ from that of the source language. An example of this can be found in the analysis of the data for this research (Chapter 4) where isiZulu changes *classifiers* found in the source language into *qualifiers* (See Clause 4, page 84).

If equivalent terms are lacking in African languages, then more intensive work on terminology development is required in order for them to be able to bridge the gaps and reduce the limitations imposed on them in academic discourse. Only then will they be better equipped to serve as languages of instruction.

2.1.2 *Functional or dynamic equivalence*

Nida and Taber (1969) cited in Venuti (2000:129) describes *dynamic equivalence* as a translation that “aims at a complete naturalness of expression, and tries to relate the receptor to modes of behavior relevant within the context of his own culture.”

Unlike *formal equivalence*, it is possible to achieve *dynamic equivalence* between the translations of non-cognate languages. Translating from English into a non-cognate language like isiZulu may entail a process of unpacking the meaning of terms in the source language through extensive description according to the culture of the target language in order for the reader to better understand the terms of the source language. It allows a natural expression of messages, where meaning is transferred naturally in the target language without working within the rules and constraints of the source language form. The problem that remains, however, is that unpacking meaning through extensive description may lead to a watering down of crucial meaning of the source text. This approach of equivalence is target-orientated as it focuses more on meaning as understood by the reader. However, whether this form of equivalence is appropriate to the type of discourse examined in this study remains to be seen.

Fawcett (1997:57) indicates that Nida and Taber’s (1969) *dynamic equivalence* has been criticized as follows: “If we follow his injunction to preserve the genius of the target language, it will mean suppressing the ‘Otherness’ of the source language”. Thus, although *dynamic equivalence* could work for non-cognate languages, the source text

meaning or source language could be compromised, especially with reference to specialized discourses.

Finding equivalents for English terms in isiZulu is difficult for the reasons mentioned above and moreover because of the fact that some terms in isiZulu are defined by means of tone. It is difficult to translate from a non-tonal language into a tonal language because what is expressed as a lexical item in one language is expressed by means of prosody in the other. Although not all terms in isiZulu are expressed through tone, those that are of tone will be difficult to translate if the translator is not fully competent in African languages. For example, the term *amabele* has two meanings: the first meaning of *amabélè* (*é* –high pitched tone and *è* low pitched tone) refers to “a female breast, or udder”; and the other definition of *amabèlè* is “sorghum or a Zulu traditional beer” (Dent and Nyembezi Bilingual Dictionary (1969). A translator who does not have a full knowledge of the way tone is realised in the target language may choose an inappropriate option. In the same way, polysemy may cause difficulty. This is what Sanders and Nhlapho (1993) call ‘paradoxical jargon’ because of the difficulty in distinguishing between everyday terms and technical or specialized terms.

Where lexicons are under-developed for some academic disciplines such as the Natural Sciences and Mathematics, translators need to adopt various strategies for term creation. Some terms can be translated by explaining the *functions* of the term in order to convey the meaning of the intended source text. This, however, may lead to a limited description of the original meaning whereby a translator leaves out some important information

contained in the original term, which then results in a semantically incomplete translation. For example, in the translated texts for this study a term *object* (defined as *a thing that can be touched or seen*, Collins 2005) is translated by one of the translators as *into esetshenziswayo (a thing used)*.

2.1.3 Problems of non-equivalence

Baker (1992:21) lists eleven common problems of non-equivalence, of which the following apply to this study:

- (a) Culture-specific concepts, where a source language expresses a concept which is unknown in the target culture. For example, the term *bearing* (see Appendix I) caused confusion for the translators because the term is unknown in the target language.
- (b) The source-language term is not lexicalized in the target language although the concept exists. For example, English has specialized Information Technology terms which are known in isiZulu but cannot be lexicalized, such as *software, hardware, e-mail, internet*, etc. This shows lexical gaps existing in isiZulu, so in this case, borrowing is used.
- (c) “The source language word is semantically complex” where a term has more than one feature describing the meaning of that term. For example, *ukunana* in isiZulu is semantically complex, as it is a Zulu custom of borrowing with the intention of sharing whereas in the western culture it is taken as “sponging”, which is not an acceptable custom.

- (d) The target language lacks superordinate terms or concepts. The target language has specific words (hyponyms) for aspects of the concepts but does not have general words (superordinate). For example, *energy*, *force* and *power* are specific terms for a specialised field in English which isiZulu does not have but only uses one term (*amandla*) which underspecifies intended meaning.
- (e) The target language lacks specific terms (hyponyms) to express specialized meaning. In this case, more general terms may not convey the meaning as intended by the source languages. This study reveals (see Chapter4:Clause 3) that the term “-nto” in IsiZulu is a general term used when there is difficulty in finding specific terms found in the source language. For example, the term for (*object*) in isiZulu is translated as *into* (*thing*) which is a general term. Although *object* in general also refers to *thing*, its application in Mathematics however, is more specific than the isiZulu term *into*.
- (f) The use of loan words or phrases in the source text. Loan words in source texts are difficult to translate. For example in legal documents, terms like *ad hoc*, are not translatable into African languages.

The above problems of non-equivalence can be applied to translations from English into isiZulu and vice versa. English, as a well-developed language of learning, has specific terms for specific disciplines. IsiZulu, on the other hand, may not contain these specific terms, and equivalents of those terms are difficult to find.

Baker's (1992) list of problems of non-equivalence will be applied to the translations in this research. As mentioned earlier, Dlodlo (1999) suggested that equivalents need to be found within the target language itself or from other African languages. Kiango (2000:11) proposes the development of indigenous languages by compiling dictionaries which will become useful for historical and academic purposes and will also become good sources and useful tools for developing languages. Kiango (2000:47) states that:

A method for representing meaning in a dictionary is using bilingual dictionaries which represent the meanings of words in a lexical equivalents form with the expectation that the user will know the meanings of the equivalents. If this method is unsuccessful, the user is then expected to retrieve the meaning of equivalents from a monolingual dictionary where meanings are given in the form of a definition.

Monolingual dictionaries also provide options for near-synonyms.

Although Kiango's (2000) method is practical and helpful, it is also problematic in instances where monolingual dictionaries of that source language do not have all the definitions of the specialized terms for specialized fields like Natural Sciences, Mathematics, Physical Science, etc., which is a problem with African languages. His method requires more planning and offers channels to follow in terms of researching terms, standardizing them and publication of those terms. Although his suggestions are useful, the challenge that remains is that it is time consuming.

2.2 TRANSLATION METHODS AND PROCESSES

Seven methods for translation are identified by Vinay and Darbelnet (1995), which are used as a guideline for the analysis of data in this study. Together with Systemic Functional Grammar (SFG) theory and translation theory (Catford 1965; Nida and Taber 1969), they form the analytical framework upon which the analysis is based. A few of the methods relevant to this study are as follows:

(a) *Borrowing*

This method is described by Vinay and Darbelnet (1995) as the simplest of all translation methods. This method occurs when a term does not exist in a target language and the target language speakers merely adopt the source term as their own, as it is. For example, in one of the translations, the term *ibombo* was not translated by the back-translator (see Chapter 4 – Clause 1). Linguists like Dlodlo (1999) do not encourage the borrowing method as it uses terms which are non-existent in the daily lives of the majority of African language speakers and does not encourage the development of new terminology. This method will be analyzed in the research as it may be a strategy used in the translation because of the non-existence of terms in the target texts, or non-existence in the terms of reference of the target language translator.

(b) *Calque*

This method is similar to borrowing where expressions from another language are borrowed and translated literally, element by element. For instance, in this study, the translation of *line of a direction* is back translated into the source language as *the*

directional line which is meaningless semantically, although it follows the syntactic rules of the language. The back translation (into SL) appears as an unnatural and awkward translation. This method will also be examined in all the translations in order to check if this strategy is more appropriate than other methods or whether it leads to loss of meaning.

(c) *Literal translation*

Vinay and Darbelnet (1995) cited in Venutti (2000) describe this method as a word-for-word translation which is a direct transfer of the source language text into a grammatically and idiomatically appropriate target language text. This method appears to be common when translating between two languages of the same family. It may also work for non-cognate languages, however. They (Vinay and Darbelnet 1995, cited in Venuti 2000:86-87) argue that:

If literal translations arise, it is because common metalinguistic concepts also reveal physical coexistence, i.e. period of bilingualism, with the conscious or unconscious imitation which attaches to a certain intellectual or political prestige, and such like.

Some translations in African languages follow this method due to the fact that a translator does not follow or understand the core meaning of the texts and, therefore, chooses a literal translation. For example, the paraphrase provided in isiZulu by one of the primary translators for *eNyakatho ngokwensimbi enezikhala (Grid North)*, was back-translated literally as *in the North according to iron which has spaces* and also chose an inappropriate meaning of *grid*, i.e. *cattle grid*, which belongs to the agricultural field.

In this study, the translators were instructed to stay as close as possible to the original meaning of the source text. This gave rise to incorrect or inappropriate translations at times. More information on this strategy is provided in Chapter 4. Vinay and Darbelnet (1995) say that literal translation is regarded by translators as problematic in instances where the term provided,

gives another meaning; or ii. has no meaning, or iii. is structurally impossible, or iv. does not have a corresponding expression within the metalinguistic experience of the TL, or v. has a corresponding expression, but not within the same register (cited in Venuti 2000:87).

Literal translation does not do any justice to translation if it leads to the problems listed above. For example, in English, a *Classifier-Thing* structure (*a Magnetic North*) changes in IsiZulu to be a different unit using a *relative structure* or *qualifiers* (*North of a magnet*) as opposed to a *classifier-thing* (see Chapter 4:clause 4). Newmark (1988) cited in Hatim and Mason (1990:6), however, challenges the argument that literal translation is unacceptable. He states that it is acceptable and correct if it retains referential and pragmatic equivalence to the source text. Furthermore, it is possible that literal translation may be the most appropriate option for specialist discourses.

(d) *Modulation*

This is the method described as a “variation of the form of a message, obtained by a change in the point of view” (Vinay and Darbelnet 1995 cited in Venuti 2000:89). Vinay and Darbelnet state that:

This change can be justified when, although a literal, or even transposed, translation results in a grammatically correct utterance, it is considered unsuitable, unidiomatic or awkward in the TL.

As semantic equivalence is not guaranteed between these two languages, some translators may opt for this method as a strategy to deal with the differences. A translation may be grammatically correct but the message may not be transferred as intended. For example, in this study a *grid* is translated as *an iron with spaces* in IsiZulu. Grammatically, the translation is correct but the message is different because the primary translator gave a description of grid in place of a specialized term and chose a different description (agricultural) instead of a term in a scientific field. This will be examined in Chapter 4, where a Systemic Functional Grammar analysis will be applied to the translations to establish whether the languages (English and isiZulu) are mutually translatable in relation to scientific discourse.

(e) *Equivalence*

Equivalence is problematic in translation, especially between English and isiZulu. However, Vinay and Darbelnet (2000:90) state that,

We have repeatedly stressed that one and the same situation can be rendered by two texts using completely different stylistic and structural methods. In such cases we are dealing with the method which produces equivalent texts.

Although Vinay and Darbelnet (2000) do not state much about equivalence, it was pointed out in Section 2.1 that English and isiZulu are non-cognate languages and finding equivalent terms of the two languages may sometimes be impossible. The aim of this research is to discover the strategies followed in the translations to compensate for lack of equivalence between the source and the target texts.

Gauton and Schryver (2004) (see 1.3) have demonstrated how equivalents can be found between languages such as English and isiZulu. Whether their methods apply to the translations in this study remains to be examined.

(f) *Adaptation*

This method is described as the method that is used in those cases where the type of situation being referred to by the SL message is unknown in the TL culture. For example, *angle* is *i-engili*, *grid* is *igridi*. This example demonstrates phonetic adaptation, otherwise known as transliteration, where a term becomes adapted to the phonetic and phonological rules of the target language.

Vinay and Darlbenet (2000:91) state that,

The refusal to make an adaptation is invariably detected within a translation because it affects not only the syntactic structure, but also the development of ideas and how they are represented within the paragraph.

If there are any adaptations in the translations, this research examine the adaptation strategies that lead to loss of the core meaning and if they do, what other method could have been used to avoid the loss of meaning of the original text.

2.3 SYSTEMIC FUNCTIONAL GRAMMAR

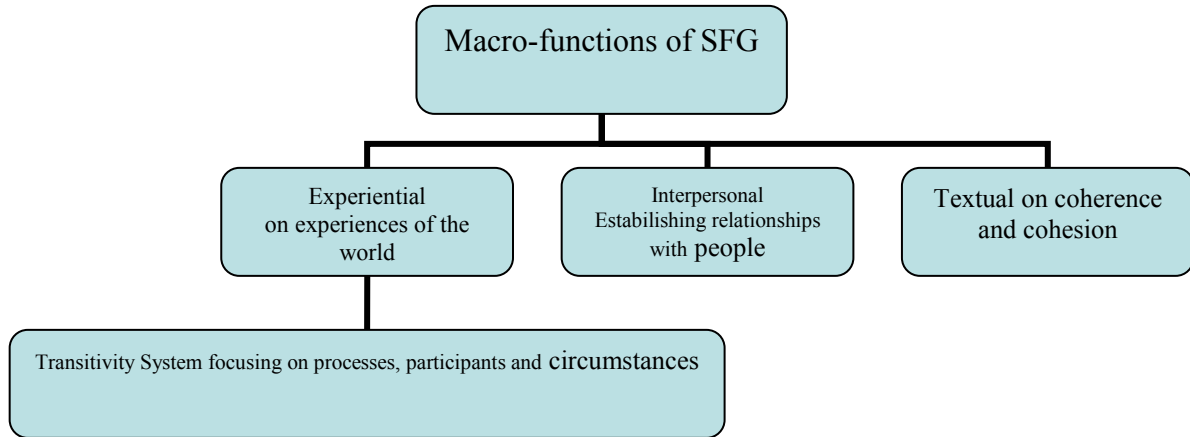


Figure 1: Systemic Functional Grammar

Halliday (1985) proposes 3 macro-functions of language known as the experiential function, the interpersonal function and the textual function (Butt 2000:46). The Experiential function, according to Butt (2000:46), “encodes our experiences of the world. We use it to convey a picture of reality”. In more detail, Droga and Humphrey (2002:7) describe the experiential function as “expressing what is going on, the people or things involved and the circumstances surrounding events”, i.e. ideas, events and phenomena. This is expressed as *processes* (actions represented as verbs), *participants* (entities, things, expressed as nouns) and *circumstances* (usually expressed as adverbials).

Halliday’s (1985) systemic functional grammar is applied in this study because it can handle clauses by looking at meaning at a level higher than a single word. His functional

grammar is an effective grammatical tool which reveals how languages are structured, where grammatical inconsistencies could occur between two languages and where loss of meaning may occur. It also reveals grammatical functions that are consistent across languages in terms of the transitivity system which is part of the experiential or ideational macro-function. Droga and Humphrey (2003:29) state that:

Experiential meanings are concerned with how meanings are concerned with how we name and describe what is going on (events, activities, behaviours or states of being); who or what is involved (people, places, things, concepts, etc.) and, the circumstances surrounding these events (where, when, how, with what, etc.).

There are six types of *processes* in the transitivity system (Droga and Humphrey 2002) , namely, *material processes* which reveal what is happening in terms of actions and who did what in terms of *participants (actor and goal)*; *mental processes* which consist of senses such as to see, feel, think, hear, etc. with *sensor* and *phenomenon* as the *participants*; *relational identifying processes* which are about describing and identifying things, *relational attributive processes* which describe the attributes of various things. This *process* includes *attributes* and *classifier-thing* constructions both of which are common to scientific discourse and which are relevant to this study.

The fourth process is the *behavioural process* which indicates a type of behaviour of a *participant (behave)* which is psychological or physiological. The fifth process is the *verbal process* indicating how meaning is transferred, either directly or indirectly and by whom (*sayer and verbiage participants*), and the last process is the *existential process* which indicates the existing *participant (existent)* specified in the clause.

Participants' roles in experiential meaning reveal how they take part in the clauses which is the reason they relate with the *processes*. *Circumstances* specify time, manner, place, condition, etc. The role of *circumstances* is to “allow us to add meaning to a clause by locating events in time and space or describing the surrounding conditions or circumstances” (Droga and Humphrey 2003:36). *Circumstances* also consist of different types, such as, extent, location, manner, cause, contingency, accompaniment, role, matter and angle (Droga and Humphrey 2002).

The *Experiential function* is relevant to this analysis because the analysed texts are selected from the field of education (Mathematics) and the language used in this field is experiential. It consists of technical terms specialized for this field (Mathematics).

The second function is the *Interpersonal function* which, according to Droga and Humphrey (2002:7), consists of “expressing the different ways of establishing relationships with others.” This function is not relevant in the analysis of the translated texts because they do not contain interpersonal language expressing relationships between people, but only relationships between entities.

The third function is the *Textual function* which expresses meaning by “organizing the language into coherent and meaningful spoken and written texts.” (Droga and Humphrey 2002:7). The functional analysis of this textual function is applied in this analysis in order

to establish how meaning is transferred between non-cognate languages in terms of coherence and cohesion, especially with reference to conjunctions and connectors.

Technical or scientific discourse such as Mathematics is difficult to translate into a language such as isiZulu where there is a shortage of the required specialized terms or concepts. Bloor and Bloor (1995:213) state that Halliday and Martin (1993), in addressing scientific writing problems, used aspects of functional grammar to analyze and describe the English Scientific Discourse in order to explain how it developed. The reason for choosing this functional analysis is to reveal how scientific discourse is structured and constructed between the two languages in question, by looking at problems with grammatical realization in terms of *processes, participants and circumstances* and further explain differences in meaning between two languages (see 3.3).

The following Chapter 3 describes the methodology used in this study and how SFG will be applied in textual analysis.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

This is a qualitative study on the translatability of English Academic Discourse into isiZulu. As pointed out in Chapter 1, this study is exploratory-descriptive-interpretive as it examines and explores how English technical texts translate into isiZulu and then describes and interprets the findings from the analysis of the texts. The reason for choosing this qualitative approach is because “the qualitative research style is more flexible and encourages slowly focusing the topic throughout the study” (Neuman 2000:149).

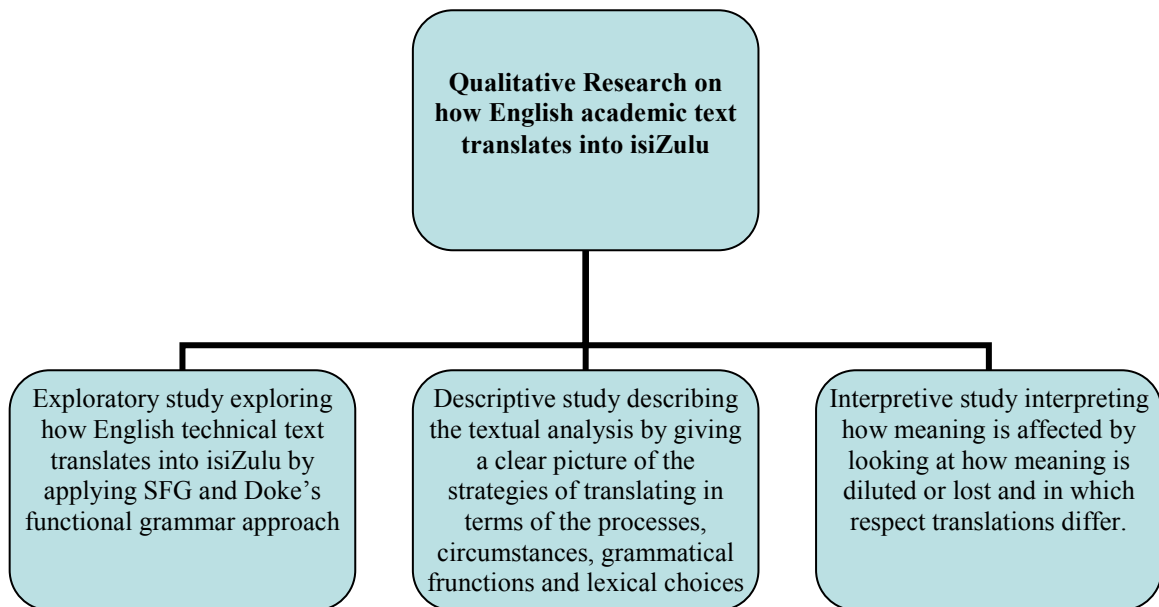


Figure 2: Research design

The study is exploratory because it explores how English technical text translates into isiZulu by applying Halliday’s approach and Doke’s functional grammar approach where both approaches show how meaning is transferred between the two languages. It is also

descriptive because after exploring how meaning is transferred, this study describes the textual analysis by revealing the strategies in terms of the transitivity system, grammatical functions and lexical choices. After describing what was explored, there is an interpretation of how meaning is affected, diluted or lost and how translations differ from the primary translations and the original text.

The research used a small sample of Mathematics text, taken from the Multilingual Resource Book (Young et al. 2005), and a semi-structured interviews (Appendices III-IX) based on a questionnaire which comprised of three categories, i.e. translator profile, general knowledge of translation strategies and the primary and back translations.

These tools were grounded in the data (translations in question in the study) and were constructed on problems identified in the analysis of the translations. They revealed reasons for differences which could be either influenced by linguistic problems or translators' choice of terms. The questionnaire for the semi-structured interviews probed deeply on the choices made and also probed on what translators used in the absence of the academic language such as word coinage, borrowing or adaptation.

3.1 DATA COLLECTION

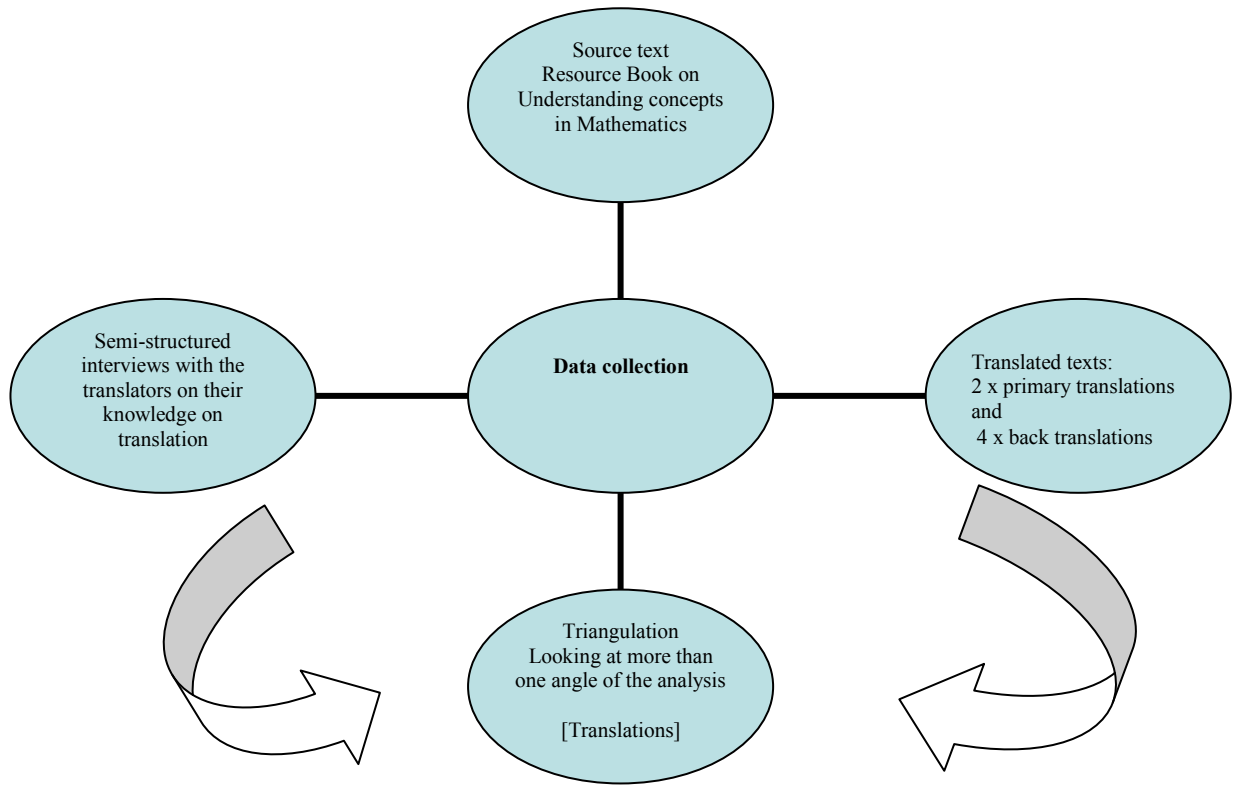


Figure 3: Data collection

The textual data are drawn from existing English texts in the Multilingual Resource Book for teachers in the Mathematics and Science Learning Areas for Grades 7 – 9 (Young et al. 2005). These texts were translated into isiZulu by two primary translators and then back-translated into English by four back-translators. The two primary translations and four back translations (two for each Zulu translation) were then analysed according to the structural and functional differences between the languages. Differences were identified and were then probed more deeply in translator interviews. Translator interviews were conducted for the purpose of finding the reasons for the lexical choices translators made.

The interviews also probed their perceptions, beliefs, attitudes and their knowledge of translation.

Findings are described and interpreted by examining three types of data collection: the comparison of the two primary translated texts, the comparison of four back-translated texts and the interviews for triangulation purposes. Triangulation in this study was amongst the data sources which are interviews and translations. The data were collected as follows:

3.2.1 English source text

The English source text (See Appendix I) is drawn from the Multilingual Resource Book for Teachers (Young et al 2005) developed to help teachers teach difficult concepts in the particular learning areas by having access to the mother tongue. The Resource Book is based on concepts found in the Revised National Curriculum Statements (RNCS) Grade 7-9 at GET level.

3.2.2 Translations

There are two primary isiZulu translations of the English source text and four back-translated texts from isiZulu into English. The reason for the back-translation was to check if the primary translations were the same as the original text. In this way, differences between the primary and the back-translations would be revealed. In total there is one English source text, two isiZulu target texts and four back-translated texts, which means that six texts were analysed and compared to the original text.

3.2.3 Translators

All translators were mother-tongue isiZulu professionals working as translators in various governmental departments and in tertiary institutions. They were selected according to two main criteria, which were: (1) high level of proficiency in English and isiZulu; and (2) translation experience between English and isiZulu especially in the educational sector. A limitation arising from the selection of translators was that subject knowledge was not considered a primary requirement as it was assumed that translators were quite experienced at translating various documents. One back-translator did two back translations (one for PT1 and another for PT2). Therefore, the profile for BT1 and BT3 is of the same person. The questionnaire had a list of questions on the translators' experience in translating and most of the translators claimed to have had a wide variety of experience across different text types.

3.2.4 Interviews

The interviews were conducted in order to discover the kinds of resources translators used and whether these were helpful; what translators felt about coining versus borrowing methods when translating, and to find out their attitudes towards African languages as MOI in order to establish whether they support African languages as MOI or not. Semi-structured interviews were based on questionnaires and a third category of those questionnaires were drafted before the interviews because the questions focused on each translation done by six translators (see Appendices III to VIII).

The questionnaires consisted of closed and open-ended questions. Closed questions asked background information such as qualifications, years of experience in translation work, the type of documents translators translate and their professional development. Open ended questions asked about the translator's general knowledge of translation strategies, their beliefs and attitudes towards translation processes, and their reasons for their terminology and translation strategy choices made during translation. Other open-ended questions focused on the translations, probing more on the strategies they used when faced with difficulties in finding equivalents, and what methods of translation they preferred and why.

The questionnaire consisted of three sections. The first section focused on the background and profile of the translators and the number workshops they attended; the second section focused on their general knowledge on translation and on translation processes, strategies and opinions about translator-training and (see Appendix III), and the last section was, designed according to the findings of the text analysis of the translations, focusing on the actual translations of each translator by probing the potential problems that were identified. Therefore, interviews probed more deeply into those problems and strategies translators used in order to address lexical gaps and other difficulties, including their own understanding of concepts identified in the analysis which relates to the back translators' subject knowledge of the field.

All the interviews were tape-recorded except for one interview which was conducted telephonically due to the unavailability of the translator for a face-to-face interview and

all interviews took between two to three hours in length. Of the six interviews, only one was conducted entirely in isiZulu (see Appendix IV). The other interviewees code-mixed between English and isiZulu. The interviewees were allowed to respond in the language of their choice in line with the Constitution requirement that:

Everyone has the right to use the language and participate in the cultural life of their choice, but no one exercising these rights may do so in a manner inconsistent with any provision of the Bill of Rights. (The Constitution of the Republic of South Africa, Act 108 of 1996:15).

It was decided that the responses given by the translators would not be glossed into the other language, in order not to distort the words or change the meaning of the translators' responses and, also, in order to take a stand for the very thing this dissertation is arguing for: IsiZulu academic discourse. Crucial ideas and concepts arising from the interviews is glossed, however, if their content is used to further the argument with reference to syntactic and lexical choices made by the translators.

This is a qualitative study as some of the research tools that were used arise out of the research process, e.g. the questionnaire on translated texts. Scrham (2003:8) argues that “qualitative research is context sensitive or context specific – that is, it proceeds from the assumption that ideas, people, and events cannot be fully understood if isolated from the circumstances in which and through which they naturally occur.” The questionnaire was therefore developed out of the research concept itself which creates a sensitive instrument.

The translations are used for further analysis focusing more on the translatability of English Academic Discourse in terms of how English texts translate into isiZulu, by identifying concepts that do not translate easily and accurately from English into isiZulu; by finding where difficulties are and how meaning is transferred from the original text and what causes such difficulties, (if any), when transferring from the original text into the target text and lastly, finding the reasons for the linguistic choices made by the translators. Contrastive text analysis (James 1980), translation and back-translation are the principal techniques used in this research to identify aspects of academic language which are difficult to translate.

A quantitative method can be applied in this study by establishing the frequent use of terminology and the change of grammatical functions, for example, establishing how many times a hyponym is used in the translated text by comparison to the original text. However, this is not the main focus of the study as it is focusing on the processes of translation and the choices made by the translators and the reasons for their choices.

3.3 DATA ANALYSIS

Data is described and interpreted by applying Halliday's (1985) SFG and Doke's functional grammar approaches. By applying these approaches as research tools to collected data, the findings will reveal whether translatability is possible between English and isiZulu, whether the structure and the functions of the languages are the same or different and how terminology choices affect meaning.

In this study the existing data is analyzed and then described by pointing out differences between ST and TT in terms of the language structures, circumstances, grammatical functions and lexical choices found in the collected data. After describing the collected data the following step is the interpretation of data. The reason for interpreting data is that, “a qualitative researcher interprets data by giving them meaning, translating them, or making them understandable” (Neuman 2000:148). The reason as mentioned by Neuman (2000) is to make data understandable in terms of how text is translated in terms of meaning.

The analysis of translated texts is based on the grammatical realization in terms of structures following Halliday’s (1985) approach to functional grammar (see 2.3); and choices of lexical terms used by primary and back-translators in order to identify where problem areas occur in the translation process. The analysis describes in detail the differences using an analytical framework comprising the grammatical tools of SFG translation theory, contrastive text analysis and the processes of translating by focusing on the strategies and methods of translation used in order to retain meaning intended by the source text.

Doke’s grammatical approach is used to identify grammatical functions that are not found in Halliday’s approach, such as verbal extensions, e.g *ukubonwa (to be seen)* as one of the grammatical functions found in the analysis (see Chapter 4, Clause 1). These two approaches combined with the translation theory (Catford 1965; Nida and Taber 1969)

provide guidance on the units investigated in translation by looking at equivalences in terms of SFG analysis at clause level, word level, phrase level and at morphology level.

The Clauses analysed focus on functional elements in terms of *material processes, participants and circumstances*; structural elements focusing on complex structures and phrases (*classifier-thing*) translated into *qualifiers*; and, semantic elements at word level focusing on *hyponyms, hypernyms, synonyms* and other choices of lexical items.

Text equivalence is therefore described, analysed and interpreted by means of an analytical framework based on four areas:

- (a) Functional analysis which analyses and compares clauses in functional terms;
- (b) Grammatical analysis which compares the use of grammar in the two languages such as the use of phrase structure, prepositions, morphology (in isiZulu), etc.;
- (c) Lexical analysis which analyses the terminology chosen by the translators for specialist areas, and
- (d) Discourse analysis especially in terms of the use of conjunctions and how (connectors, discourse markers) may affect rhetorical arguments across languages.

Text analysis provides information on whether the translation was focused on formal equivalents or on functional equivalents. The data from the analysis of interviews was supplemented with text analysis in Chapter 4, in order to use insights gained from the

interviews with reference to choices of lexical terms and other syntactic structures made by the translators.

3.4 LIMITATIONS OF THIS STUDY

During the interviews, the interviewees gave short answers to some of the questions and some interviewees could not remember the reasons for their choices of terms which limited the information obtained.

Although systemic functional grammar reveals structural and functional differences across languages, the limitation with this approach is that it cannot always deal with the elements of African languages and does not cater for African languages in terms of grammatical structures specifically, such as Doke's (1997) verbal extensions.

CHAPTER 4

TEXT ANALYSIS

This Chapter consists of a contrastive text analysis of the primary translations, back-translations and the original text. The primary translations are compared to the original text and to each other, and the back-translations are compared to both the primary and the original texts in terms of functions (*processes, participants, and circumstance*), structures, lexical items, conjunctions and discourse markers. This Chapter will show how clausal elements have been changed in the primary and in the back-translations and how this affects meaning. The full original text extracted from the Multilingual Resource Book is provided below, and, all translations appear in Appendix I.

The abbreviation keys used in this Chapter are as follows: **PT1** = Primary translator 1; **PT2** = Primary translator 2; **BT1(PT1)** = Back-translator 1 (of PT1); **BT2(PT1)** = Back-translator 2 (of PT1); **BT3(PT2)** = Back-translator 3 (of PT2), and **BT4(PT2)** = Back-translator 4 (of PT2).

Original text

A bearing is a direction which is determined by an angle. It refers to a direction on the ground, or in water, in the air or on a map. This angle is measured between an imaginary line pointing towards North and the line of the direction of the object. It may be a true (or geometric) North, magnetic North or a grid North. The size of this angle describes the actual direction of the object.

CLAUSE 1

A bearing	is	a direction	which	is determined	by an angle
Token	Relational identifying process	value	Relative marker	Process material	Actor

PT1

Ibombo <i>A bearing</i>	yindlela <i>is a direction</i>	okubonwa <i>which is seen</i>	ngayo i-engili <i>by means of an angle</i>
Token	Yi= copulative Relational identifying process- ndlela value	Process mental	Circumstance manner

PT2

Ibombo <i>A bearing</i>	yinkombandlela <i>Is a direction</i>	[etholakala <i>which is found</i>	ngokusebenzisa igumbi] <i>by using an angle.</i>
Token	Yi=copulative Relational Identifying process -nkombandlela value	Process material	Circumstance manner

BT1 (PT1)

The ridge	is	a means	[in which	the angle	is measured]
Token	Relational identifying process	Value	Relative marker	Goal	Process material

BT2 (PT1)

Direction	is	the way	[in which	an angle	can be seen.]
Token	Relational Identifying process	Value	Relative marker	phenomenon	Process mental

BT3 (PT2)

The tip range	is	the direction	which	comes about	due to the use of the corner
Token	Relational identifying process	Value	Relative marker	Process material	Circumstance manner

BT4 (PT2)

Ibombo	is	the indicator	which	is found	by using the angle
Token	Relational identifying process	Value	Relative marker	Process material	Circumstance manner

Analysis

All translations have retained the relational identifying process found in the first part of the clause and they also retained the second part as a qualifier. However, there are differences in terms of the grammatical structures, lexical items and the discourse markers.

The term *ibombo* is a coined term by the primary translators. In the bilingual dictionary for English and isiZulu (Dent and Nyembezi Scholar's Dictionary 1969), the term *ibombo* does not exist. The various definitions for *-bombo* are as follows: *amabombo* (face; direction) which takes the prefix (*ama-*); *ubombo* (range of mountains) which takes the prefix (*u-*); *umbombo* (bridge of a nose) which takes the prefix (*umu-*; *imi-*). Coined terms are acceptable because they develop the terminology of a language. However, those terms need to be standardized in order for language users to become familiar with them and accept them as standardized. The problem with the coined term *ibombo* is that the readers are not familiar with it and it could therefore cause confusion as seen from the choices made by the back-translators (see below). In this respect, both primary translators agreed in the interviews that their choices of terminology had been selected from the bilingual dictionary. However, PT2 stated that she had referred to other African languages belonging to the Sotho Group, such as Sepedi, which is spoken in the Limpopo Province, where the definition of *ibombo*, according to her understanding, meant *corners of the continent*. Both PTs indicated that there were no other alternate terms available to use (see Appendices IV and VIII).

In terms of the *lexical items*, the back-translations have different terms for the translation of *bearing*. BTs differ in their choices of terms for the *participants* in the translation. For example, in the clause *A bearing is a direction*, BT1 has *the ridge (token)* to replace *bearing*; BT2 chose *direction (token)*; BT3 chose *the tip range* and BT4 chose a direct borrowing *ibombo*.

All BTs diverged from the primary translation provided for *bearing (ibombo)* and had difficulty in understanding the exact meaning of these terms as used in the primary translation. In BT4 the term *ibombo* is not back-translated into English; instead, it is borrowed directly from the primary translation. This shows that the BTs could not find a common equivalent for the term *ibombo*. This problem was addressed in the interviews which were used to examine the choice of strategy used by translators when they encountered such difficulties (see Appendices IV-IX). All BTs admitted in the interviews that the text was difficult to translate and that they had to rely on bilingual dictionaries. BT1 admitted that this was a difficult term and she had to relate it to a “high place” and thought of *iBombo Mountain* and that was how she had come up with the term *ridge* because it is a “high elevated place”. BT2 found the term strange and therefore relied on a bilingual dictionary as she found the document to belong to a specialist field. BT3 could not remember why she chose *tip range* but she might have used a dictionary or consulted with other experts. BT4 admitted to having borrowed the term *ibombo* directly as it meant nothing to her.

Different terms used for defining the *value (direction)*, viz. *Yindlela* (PT1) and *Yinkombandlela* (PT2). The back-translators translated these terms as follows: BT1 chose *means*; BT2 chose *the way*, BT3 chose the correct term as in the original *direction* and BT4 chose *indicator*. This shows that the term chosen by the PT1 is not specific enough to retain the core meaning of the original text because it (*-ndlela*) has more than one meaning. It is polysemous; however, the term used in the second primary translation *inkombandlela* seems to be a better option as BT3 retained the exact concept of the original text.

The term *inkombandlela (direction)* is not retained by BT4. Instead, a less specific term *indicator*, was chosen although it has the same function (*to indicate a direction*). In isiZulu, *to indicate a direction* is translated as *khomba indlela (show/ indicate the way)*. A tool that points a direction will be translated as *inkombandlela*. Polysemous terms caused confusion in the translators' choice of terminology. It also reveals that some BTs did not make use of the context to help them make an appropriate lexical choice from among the options provided in the dictionary.

The phrase *okubonwa ngayo (which is seen by means of it)* which PT1 chose as a translation of *which is determined* leads to loss of original meaning. Although the phrase *okubonwa ngayo* still retains the passive voice as in the original text, it does not retain the essential meaning of the original where *angle* effects an action as *actor*. Because PT1 used an inappropriate connector *ngayo*, which means *by means of*, and chose a different lexical term *okubonwa (which is seen)*, the angle now becomes a *goal* which experiences

the action, rather than an *actor* which creates the action. This lexical choice now creates a different *process (mental)* where a *bearing* becomes a *phenomenon* in a *mental process (that which is seen)* instead of an *actor* in a *material process* as in the original.

In the second primary translation, the term *tholakala (is found)* consists of a verb *thola (find)* and the addition of a verbal extension marker *-kala*, which indicates *neuter extension*. According to Doke (1997:138), the neuter is a quasi-passive form which “indicates an intransitive state or condition without any special reference to an agent determining that condition.” Therefore, the passive voice is retained but there is no reference to the person or thing causing the action, which is the case in the original text, i.e. *angle*.

There is an addition of terminology *ngokusebenzisa (by means of using)* in the primary translation which led to divergence from the original meaning of the source text by adding the connector (*-ngoku = by means of*) and the verb (*sebenzisa = use*). The term *determined* is thus extended and the original meaning diluted by adding near equivalents mentioned above. However, the danger, as pointed out by Dlodlo (1999:326), is that some terms in African languages cover two or more distinct meanings in English, therefore leading to under-differentiation. Although the passive voice is retained structurally, the meanings of the terms chosen do not retain the core meaning of the original text. PT2 admitted that:

If a person is back-translating, it is rare to find the exact meaning or terms of the original text. That is the difficulty we face in languages. A person who is reading will have to use his or her knowledge of the language (see Appendix VII).

In terms of processes, three back-translations contained terms which belonged to *material processes*. BT1 changed the PTs *mental process* (*okubonwa ngayo*) back to a *process material* (*is measured*), which is in line with the original text. Although BT1 used the most appropriate synonym for *determined* (*measured*), the meaning changed to the *angle* being what is *measured*, and not the *bearing* i.e. the *angle* is no longer an *actor*, as in the original text *material process*, but the *goal*. BT2 stayed close to the PT's translation (*can be seen*) which then changes the meaning of the original as an *angle*, once again, has the role of *phenomenon* (*something perceived*) in a *mental process* as opposed to an *actor* in a *material process*. BT3 translated *etholakala* (*is found*) as *which comes about* or *happens*, thereby changing the meaning entirely. The former choice by the PT (*found*) would have been closer to the original. BT4 used *which is found* as a translation of *etholakala* which, although less specific than *determined*, is closer to the original.

The terms chosen in BT1, BT3 and BT4, although retaining the function of *material process*, nevertheless deviate from the core meaning (see above). BT 1 did not follow the primary translation closely like BT2 but rather s/he decided to use his or her discretion by using the term *measured* which was appropriate.

In the first primary translation (PT1), the *angle* becomes a *phenomenon* due to the translation of *determined* (*as seen*) whereas in the original text, it determines the action. The meaning is being expressed by means of different processes. For example, the original text has *determined* as a *material process* whereas in the translation it is a *mental process* (*seen*). The original text has the *angle* as the *actor* which determines the *bearing*,

whereas the primary translation has the *angle* as that which is perceived. This caused confusion for the BTs.

With reference to the use of the term *angle (i-engili)*, the first primary translator used a borrowing strategy which is adaptive rather than coining a term. The reason for this strategy could possibly be that it is difficult to find an equivalent term for *angle* and therefore the translator decided to use the borrowed term which is commonly used in the field because it would be more familiar. In the interviews, PT1 stated that she accepted borrowing as a helpful method when she encountered difficulties, either direct borrowing with a hyphen before the term, or an adaptive borrowing (see Appendix IV for interviews PT1).

PT2's term for *angle (igumbi)* confused BT3 although she admitted to having relied on a dictionary for translation. The term *angle (igumbi)* was not retained in her back-translation as she used *corner* to refer to *angle*. However, in the bilingual dictionary, *angle* is defined as *i(li)gumbi* which means *any scooped-out, hollowed-out place, corner of a room*. There is nothing about *angle* in the definition of *igumbi*. PT2 mentioned that she obtained the term *igumbi* from the dictionary and also referred to her Science term list from the National Language Services in the Department of Arts and Culture. PT2 used a term that was not familiar to the BTs. This shows that the BTs' choices also influence the outcome of translation, showing whether the back-translation is a true reflection of the primary translation or the BTs decision-making in terms of lexical choices and translation processes such as addition, omission, etc.

Discussion

All back-translators used different terms for the translations, which is an indication that isiZulu lacks specific terminology for a specialized field like Mathematics. BT1 changed the function of angle from *actor* to *goal*, whereas PT 1 has a *direction which is seen by means of an angle*, thereby retaining the *angle* as *actor*. BT1 had the *angle (goal)* being measured by the *direction*. Both BT3 and BT4, retained the fundamental sense of the original text in terms of the fact that the *angle* has *agency*. The way this was expressed, however, could cause confusion. BT3 had *due to the use of the corner*, and BT4 had *by using the angle*, the latter being closer to the original. PT2's choice of the connector (*ngokusebenzisa*) and translation of *angle* as *igumbi (which can also mean corner)*, had influenced the back-translators. BT2 also changed the functional meaning of *angle* from *actor* to *goal*. In this case, *direction* is the *way* in which an *angle can be seen*. So, although the BT retained the *mental process* as selected by the PT, the essential meaning lost accuracy.

The selection of inappropriate terms by the translators showed that primary translators need to provide a glossary of their coined terms in order for the readers to understand the core meaning of the source text and avoid loss of meaning. Therefore, isiZulu needs to enrich and expand its technical terminology by offering or creating a greater range of options in lexical sets and semantic fields and also develop more specific terms for specialized fields as the terms chosen in primary translations are not helpful for the readers.

CLAUSE 2

Original text

It	refers to	a direction	on the ground, or in water, in the air or on a map
Token	Relational identifying process	Value	Circumstance location

PT1

Isho <i>It means</i>	indlela <i>a direction</i>	ephansi , esemanzini, esemoyeni noma ekubalazwe. <i>that is down, in the water, in the air or on a map.</i>
i=- Token -sho= relational identifying process	Value	Circumstance location

PT2

Lisho <i>It means</i>	inkombandlela <i>a direction</i>	ephansi emhlabathini, noma emanzini, emoyeni noma phezu kwebalazwe. <i>oOn the ground, or in the water, in the air or on top of a map</i>
Li-= token -sho= relational identifying process	Value	Circumstance location

BT1 (PT1)

It	means	A direction	down below, under the water, in the air or on the map
Token	Relational identifying process	Value	Circumstance location

BT2 (PT1)

It	is about	downward direction	in the water, in the air or on the map
Token	Relational identifying process	Value	Circumstance location

BT3 (PT2)

It	means	the direction	on the earth, or in the water, in the air or on the map
Token	Relational identifying process	Value	Circumstance location

BT 4 (PT2)

It	refers to	the indicator	on earth, or in the water, in the atmosphere or on a map.
Token	Relational identifying Process	Value	Circumstance location

Analysis

The functional analysis is the same in all translations as all sentences consist of a *relational identifying process* and a *circumstance of location*. The value is different according to the PT's choices.

There is variable use of the noun class prefix structure for the term *ibombo*, e.g. *(i)sho* (PT1) and *(li)sho* (PT2). The term *(-sho)* has multiple meanings, i.e. *means*, *say* (Dent and Nyembezi 1969). Meaning is not lost in the first back-translation (BT1), as *means* is a near synonym for *refer to*. In the second back translation however, the phrasal verb *is about* dilutes the meaning, being descriptive rather than specific. Although *(-sho)* does not lead to loss of meaning, the term *iqonde/iqondise* as a relational identifying process would be a more specific term or would be closer to the original (*refers*). However, the second back translator of the second primary translator managed to retrieve the original meaning.

With reference to the value *direction* in the original clause, it is rendered as *indlela* (*way*, *direction*) by PT1 and *inkomandlela* by PT2. The value (*indlela*) found in the primary translation 1 has been variously back-translated as *direction* by BT1 and BT3, however, BT2 has an addition (*downward direction*) and *indicator* by BT4.

The phrase *downward direction* used in the second back-translation (BT2) is more general. It has therefore deviated from the primary and the original text and lost the specificity of *on the ground*. In the fourth back-translation, *indicator* remains consistent

in all the clauses. However, it reveals the difficulty translators experience with polysemous terms.

With reference to *circumstances*, all the translators obtained the correct *circumstance location* but there were various realizations of the prepositional phrases. For example, the term *ephansi (down)* is a general term used to refer to *down, beneath* (Dent and Nyembezi 1969). It does not retain the specificity of the original meaning of *on the ground* unless there was a demonstration referring to the ground by pointing. In the interviews, PT1 said that there was no other way she could have translated this differently as *down* refers to something beneath. This has confused the back-translators as BT1 chose *down below* which was true to PT1's translation. On the other hand, PT2 has the term *ground* as *ephansi emhlabathini (down on the ground)* which gave rise to accurate translations by the back-translators. There is no loss of meaning because PT2 gave specificity of location.

In terms of the discourse markers, BT1 chose the option *under* instead of *in* as a *locative* which is surprising as the locative *e-* can mean *in, on* or *at*, but not *under*. Only phrases such as *phansi kwa-*, mean *under*. Possibly there has been a misinterpretation of isiZulu syntactic structure. BT1 mentioned that PT1 had used the marker *(-se-) esemanzini* which is a general marker indicating any location.

In relation to choice of prepositions, PT2 uses a different preposition *phezu* for *on* which means *on top*. The back-translators both followed the original term which means that *phezu* was appropriate unlike PT1's choice of term which led to less specificity.

In BT4's translation there is a different term for *air* (*atmosphere*) which carries a different meaning to the original. In the interviews when BT4 was asked about reasons for choosing *atmosphere* instead of *air*, her response was that:

I preferred it (atmosphere) rather than air. It does not make any difference as such and I was thinking geographically because I could not understand the translated text.

This does indicate that BT4 was using the context for retrieval of meaning, although there was still confusion regarding the appropriate specialized terms.

Discussion

The choices translators make may lead to loss of meaning intended by the original text. It is therefore important for translators to have knowledge of the subject field in order to avoid selection of inappropriate terms.

Although this clause was translated almost correctly, general terms are problematic in isiZulu as they are unable to retain the core meaning of text through under-differentiation of specific terms. This means that finding equivalents in isiZulu is more difficult when a language lacks technical and specific terms.

CLAUSE 3

Original text

This angle	is measured	between an imaginary line pointing towards North and the line of the direction of the object.
Goal	Process material	Circumstance location

PT1

Le engili <i>This angle</i>	ikalwa <i>is measured</i>	phakathi kolayini owumcabango okhombe ngaseNyakatho kanye nolayini wendlela yento. <i>between an imaginary line pointing towards the North and the line of a direction of a thing.</i>
Goal	Process material	Circumstance location

PT2

Leli gumbi <i>This angle</i>	lilinganiswa <i>is measured</i>	ggaphakathi komugqa ocatshangwayo okhomba ukuya eNyakatho kanye nomugqa wenkombandlela yento wento esetshenziswayo <i>in between the imaginary line pointing to the North and the line of the direction of a thing used.</i>
Goal	Process material	Circumstance location

BT1(PT1)

This angle	is measured	between imaginary line pointing to the North and the directional line of the object.
Goal	Process material	Circumstance location

BT2(PT1)

This angle	is measured	with imaginary line which point towards the North and lines of the direction of a thing.
Goal	Process material	Circumstance manner

BT3(PT2)

This corner	is measured	in the imaginary line of the direction of things of the things being used
Goal	Process material	Circumstance location

BT4(PT2)

This angle	is measured	in using imaginary line pointing north and the line of the indicator of a used thing.
Goal	Process material	Circumstance manner

Analysis

All primary and back-translations have the same functional analysis as the original text whereby the first part of the clause is a *material process*, as *angle (i-engili, igumbi)* is the goal receiving action, and the second part of the clause is a *circumstance of location* because it describes where the action is happening except for BT2 and BT4 whose translations included *circumstance of manner* because of the inappropriate prepositions chosen (*with, in*). The *circumstance of location* may possibly be construed as *circumstance of manner* in terms of the processes of measuring the angle. However, it was analysed as a *circumstance of location* because of the primary meaning of “between” which answers the question: *where?*

PT1 chose *ngaphakathi (in between)* and PT2 chose *phakathi (between)* as prepositions which gave rise to various interpretations by the back-translators. BT1 stayed true to the primary translation which was a true reflection of the original text. BT2, however, changed the circumstance to a *circumstance of manner* because the inappropriate preposition (*with*) describes how or by which means the angle is measured. BT3 and BT4 used *in* instead of *between* because they followed PT2s translation *ngaphakathi (in)*. However, BT4 used the phrase *in using* which turned the *circumstance of location* into one of the *manner*. In terms of the discourse markers, the second primary translation added *nga-* which translated to *in* and *in using* by the back-translators, thereby shifting the meaning intended by the original text whereas *phakathi* means *between*. However, BT4 differed again because the *circumstance of location* was changed into the *circumstance of manner “in using”*. The change of *circumstance* in BT4’s translation

was caused by the addition of the term “*using*” which answers the question “*by what means*” instead of a spatial preposition ‘*between*’. This shows that translators do not only depend on the source text and other resources such as dictionaries and field experts, but also make their own judgements and this sometimes creates problems relating to meaning when wrong judgements are made. It also reveals a need to provide more contextualized items in dictionaries.

Although the PTs selected different realizations of the term *line* (*ulayini, umugqa*) the term “*umugqa*” as used by the second primary translator, is a better choice because it is a term that originated from within the target language itself and original terms should be given preference over adopted terms. Doing this will encourage the use of the original terms available in a language (Dlodlo 1999; Kiango 2000).

In the first back-translation, the phrase “*line of the direction*” in the original was rendered as the “*directional line*”. This is a strategy that Vinay and Darbelnet (1995) refer to as “*calque*” because it is based on the syntax of another language, in this case, English. This term was contextualized by the back-translator and structurally changed. However, in this case the *attribute* “*directional line*” is not correct as a “*directional line*” carries no meaning in English Mathematics Discourse. In terms of the grammatical function, the sentence structure is changed from a *post modifier* into a *pre-modifier* as “*directional*” modifies the type of a line. This reveals that translation is not about a “replacement of textual material”, as Catford (1965:30) implies. There is more to

translation than just a replacement as translators become creative in order to find equivalents of terms difficult to translate.

The term *object* is generalized to *-nto* which means *thing*. *Object* in the second primary translation is created by using a construction of *thing + qualifier into esetshenziswayo (thing being used)*. Therefore, it further describes the type of *object* by specifying *object* which led to a dilution of the original meaning. This term is a fairly abstract and general term in English with no real equivalent except for the term *thing*. Although the near equivalent for *object* is *thing (-nto)* in IsiZulu, the second back-translator did not realize that *(-nto)* refers to the term *object*. PT2 said in the interview that *object* is a term that has no real equivalent in isiZulu. However a better way may be to describe the *type* of that object. However, this choice led to awkward translations for BT3 and BT4. For example, BT3's translation for *object (of things of the things being used)* and BT4's translation (*used thing*) showed confusion and redundancy. Only BT1 used the term *object* for *thing*. The other BTs were true to the primary translations.

BT1 admitted that *-nto* was used for everything, therefore, equivalent terms needed to be found. When BT3 was asked about the resources that can be used for the term *object*, she responded by saying that: "If a dictionary cannot give an appropriate direction to follow, you have to resort to your own understanding of the concept. It is a problem with the language itself".

PT2 translated *angle* as *igumbi* which is not a familiar term and also carries different meanings. BT3 translated the term as *the corner* revealing that she did not use the Mathematics context to retrieve the meaning. *Igumbi* is an unfamiliar term and also polysemous therefore it needs to be validated and disseminated as a valid term.

Discussion

Sometimes a change in the word choice, discourse markers such as conjunctions, prepositions and other language structures lead to change in the functional analysis especially in relation to the participant roles and the nature of processes and circumstances. For instance, the change from circumstance of location into circumstance of manner is caused by the word choices made by the translators.

CLAUSE 4

Original text:

It	may be	a true (or geometric North)	magnetic North	Or a grid north
Token	Relational identifying process	Value	Value	Value

PT1

Kungaba <i>It may be</i>	<i>yiqiniso (noma ngokulinganayo ngobukhulu eNyakatho) a truth, (or equal in size) in the North</i>	enyakatho ngokukazibuthe <i>in the North according to the magnet</i>	noma ngokwensimbi enezikhala. <i>or in the north according to the iron with spaces</i>
Ku= Token -ngaba = Relational identifying process	Value	Circumstance location	Circumstance location

PT2

Kungaba <i>It may be</i>	yinyakatho eyiqiniso (noma yejiyometri) <i>a true North (or of geometry)</i>	inyakatho kazibuthe <i>North of the magnet</i>	noma inyakatho yegradi <i>North of the grid</i>
Ku=token May be = Relational identifying process	Value	Value	value

BT1 (PT1)

It	could be	correct (or of the same size) in the North	North according to the magnet	Or North according to the perforated iron/metal
Carrier	Relational attributive process	Attribute	Value	Value

BT2(PT1)

It	can be	true (or the same measurement in size) in the North,	Northwards according to a magnetic direction	Northwards according to the iron with spaces
Carrier	Relational attributive process	Attribute	Attribute	Attribute

BT3(PT2)

It	can be	the real North	a magnetic North	a grid North
Token	Relational identifying process	Value	Value	Value

BT4 (PT2)

It	can be	true North (or geometry)	or can be the North of the magnet	or of the North of the grid
Token	Relational identifying process	Value	Value	Value

Analysis

The original clause has a *relational identifying process*. Both PTs retained the relational identifying process; however, the BTs changed the process to a *relational attributive process*. The second participant in clause 4, the *value*, is a *classifier-thing* construction of which there are three: *True North, Magnetic North or Grid North*.

The *participant (North)* in the original then becomes a circumstance of location in the translation, i.e. *eNyakatho (in the North)*. The back-translations differ in terms of their functional analysis because they were translated as *attributive processes* caused by the term “*eNyakatho*”, which is a *circumstance of location*. BT1 changed PT1’s “*Truth*” into an *attribute “correct”* for “*true*”. If, however, it is regarded as meaning “*Northwards*”, it becomes a *circumstance of location*. BT1 and BT2 both retained the circumstance of location (in the North), the inappropriate translation of the original by the PT1. BT3 chose a near synonym for “*true*” (*real*); only BT4 chose a *classifier-thing* construction, e.g. *north of the magnet*. In the interviews, when asked how the primary translators could have retained the original use of *true*, BT3 responded that:

It does not seem there was something else they could have done because they had to follow the syntax they are used to because if you say “it may be a true”, in isiZulu, awukwazi ukuthi uzothini (you do not know what to say), what is a true north.

The term *qiniso* in isiZulu is polysemous and can mean *actual, real or true*. This caused confusion and affected the retention of the *classifier-thing* construction.

In terms of the *lexical items* selected for the translations, PT1 paraphrased the *classifier geometric* which could not be retrieved in the back-translations. The isiZulu was

translated literally by the back-translators, (BT1 = *of the same size*, BT2 = *the same measurement in size*). The reason for PT1's paraphrasing is that she could not find an equivalent term for *geometric* (*ngokulinganayo ngobukhulu eNyakatho*), she therefore decided to paraphrase in order for her readers to understand what the term is about. However, when asked about other alternate terms, she mentioned that a direct borrowing would be a helpful method. There is a lexical gap with the classifiers *geometric* and *grid*.

PT2's translation adopted terms used in the source text, such as *yejiyometri* (*of geometry*) which, however, was not retained as intended by the source text because the term classifier *geometric* changed into a *possessive noun* (*yejiyometri*) rather than an *attribute*. Adopting terms made the back-translation easy for the back-translators to retain the original meaning because adopted terms are easier to identify, such as, *yigridi* (*grid*) and *yejiyometri* (*geometric*) and the BTs stayed true to the isiZulu translation (*of geometry*).

The term for *grid* was paraphrased by PT1 by giving the description of what a *grid* is in terms of its appearance, e.g. *iron with spaces*. This has, however, deviated from the original meaning of the source text as there is a selection of an inappropriate meaning of the term *grid* by the BTs. The BTs gave a literal translation *ngokwensimbi enezikhala* (*perforated iron* and *iron with spaces*) because the paraphrase given in the translation is meaningless to them as it applies to an agricultural context and not a scientific one. The advantage with paraphrasing is that general items that people relate to easily are used. However, a disadvantage with paraphrasing is that meaning is sometimes lost because some important items may be omitted in the paraphrase, as the term lacks the specificity

of the original. Furthermore, the primary translator has selected the incorrect meaning for *grid* in context. She had described a cattle grid which was the rendering given in the dictionary. When PT1 was asked her reasons for paraphrasing she mentioned that she had applied her own knowledge and did not consult with other experts and she could not think of any other alternate terms to use. PT's inappropriate choice led to divergence of the BTs translations from the original meaning. BT1 felt it that it would have helped if the term had been borrowed directly from the ST (as PT2's translation had done, with *yegridi*), and BT2 felt that nothing else would have helped except for being a specialist in that field. PT1's translation lost the *classifier-thing* structure by using a qualifier with a connector *ngoku-* (*according to, about, in terms of*). In terms of prepositional phrase isiZulu uses *qualifiers* to describe *things (nominals)* rather than *classifiers*, e.g *magnetic north* would be *north of the magnet*, *grid* would be *north of a grid*. The two structures are not compatible (*pre-modifier-classifier*) across languages.

Discussion

The difficulty in isiZulu is that when single equivalent terms are not available, the terms have to be paraphrased. However, paraphrasing sometimes leads to lack of specificity and loss or dilution of meaning. For example, the paraphrase of the term "*geometric*" as (*ngokulinganayo ngobukhulu*) translated by BT1 as same *measurement in size*. Furthermore, isiZulu tends to *describe* entities (things) rather than *classify* the, as English does.

CLAUSE 5

Original text

The size of this angle	describes	the actual direction of the object.
Token	Relational identifying process	Value

PT1

Ubukhulu bale engili <i>The size of this angle</i>	buchaza <i>describes</i>	indlela okuyiyona yento. <i>the real direction of a thing.</i>
Token	Relational identifying process	Value

PT2

Ubukhulu baleli gumbi <i>The size of this angle</i>	buchaza <i>describes</i>	inkombandlela yangempela yaleyo nto yokwenza <i>the real direction of that thing to do.</i>
Token	Relational identifying process	Value

BT1 (PT1)

The size of the angle	describes	the direction which is the real object.
Token	Relational identifying Process	Value

BT2 (PT1)

The greatness of this angle	describes/explains	the reality of a thing.
Token	Relational identifying Process	Value

BT3 (PT2)

The size of the corner	explains	the real direction of what is being used
Token	Relational identifying process	Value

BT4 (PT2)

The size of this angle	means	a true indicator of that used thing.
Token	Relational identifying Process	Value

Analysis

The original text is a relational identifying clause, identifying *the size of the angle (token)* as *the actual direction (value)*. All translations have the same functional analysis as the original text. They are all *relational identifying* clauses. However, in terms of the *lexical items*, there were terms found to be problematic in the target language. There were also changes in the realization of some *syntactic structures* namely, *nominal groups*, which affects the essential meaning of the original.

Both PTs used the term *ubukhulu (the size)* which BT1, BT3 and BT4 retained as in the original text. However, BT2 chose an inappropriate term for *size (greatness)*. The core meaning is therefore not retained as intended because *greatness* indicates how big the size is, whereas the primary translation does not specify how big or small the size is. BT2 thus added a feature which neither the original nor the primary translation carried. When BT2 was asked her reasons for choosing *greatness*, she mentioned that her understanding of size was that: “Size can be big or small whereas *ubungako (size)* means *greatness*.” Once again, BT3 was consistent with her translation of *corner* for PT’s *igumbi*.

The PTs differed in their translation of *actual* where PT1 chose *okuyiyona* and PT2 chose *yangempela*. The back-translators could not retain the original meaning for this structure. However, they managed to select near equivalents such as *real and true*.

In terms of the grammatical function, the back-translations had a structure different from the primary translation. The term ‘*actual*’ in PT1’s translation refers to *direction* which

is true to the ST. In the BT1 translation, however, *actual* qualified *object* instead of *direction* and BT2 nominalised a *qualifier* (*yona*) into a *nominal* (*reality*). In isiZulu structure, the relative clause followed the noun that it qualified. This is clear in the PT1 – *indlela okuyiyona*. However, BT1 attached the *qualifier* to *object* (*yento*) instead of to *direction* (*indlela*). The nominalised ‘reality’ by BT2 renders the clause meaningless.

BT3 and BT4 retained the structure where the term *actual* referred to direction as in the original text. However, the term *object* has been back-translated differently in the translations. They both differed from the primary translation by changing *to do* into *used*. Therefore, the back-translations were not a true representation of PT2. The paraphrase of *what is being used* and *that used thing* for *yaleyo nto yokwenza* is very non-specific, vague and general when compared to the more scientific term *object*.

Discussion

As the translators lacked frames of reference for the specific subject areas, it was difficult for them to realize that their selection of terms was inappropriate. This shows that the current bilingual dictionaries intended mainly for non-native speakers are not useful to translators. PT1 admitted that the use of bilingual dictionaries is not helpful because they consist of long lists of terms which are not contextualised or do not give definitions. However, when the need arises, she does refer to dictionaries though the current ones are not reliable and can be misleading (see Appendix IV). BT2 also mentioned that she did not rely much on a dictionary but she referred to them for specific terms in order to avoid paraphrasing.

When translators were asked about their preferred method between coining and borrowing, BT2 and BT4 said that they preferred borrowing because they felt that these terms were easily recognizable. Other translators preferred a coining method. However, they were aware of the difficulties that came with coining, such as the validation and standardization of terms which were often unfamiliar to the end-user.

All translators mentioned that one way to avoid loss of meaning in translation was to consult with other translators, to have knowledge of the subject field and to cross-check between dictionaries. Some also mentioned that when terms were not available in a target language, borrowing would be a better method to use because of easy recognition of terms.

The next Chapter provides for the discussion of findings from the analysis.

CHAPTER 5

FINDINGS

This study aimed to show how an analysis of translated texts could reveal challenges in the translatability of text from English into isiZulu by applying the Systemic Functional Grammar Approach (SFG). The problems identified revealed that the primary translators selected inappropriate choices of lexical items due to polysemous terms; coined terms had no explanation or definition, leading to confusion for the back-translators; the paraphrasing of lexical items also led to dilution of meaning by the translators; the choice of non-specific lexical items diluted the meaning of the original and lastly, the lack of subject area knowledge also posed a challenge.

The back-translators also contributed to loss of meaning with their inappropriate choices of terms due to their not using context to guide their choices; lack of knowledge of the subject field and limited knowledge of the range of semantic options (both English and isiZulu). Some tended to “correct” the PT’s primary translation, which also posed a problem.

Contrary to the assumption in this study that translation across non-cognate languages would be problematic, SFG reveals that, at a deep level, the functions of the language remain consistent. In relation to Mathematical discourse, isiZulu has a similar transitivity system to English with reference to the *processes*, *participants* and *circumstances*. However, one of the structures that SFG revealed as being problematic in translation was

the *classifier-thing* structure which is characteristic of English scientific and technical discourse.

There were a couple of cases where *processes* changed because of inappropriate selection of terminology that was caused by lack of knowledge of the subject field; lack of terminology equivalence between languages and the influence of the translators' own choices, e.g. a *material process (determined)* was translated as a *mental process ukubonwa (to be seen)*.

In terms of syntactic structure, one of the problems between English and isiZulu is the flexibility of isiZulu word order, particularly with the *qualifiers*, where English *classifiers* were changed into *qualifiers* in isiZulu. For example, terms such as *into esetshenziswayo (thing that is used) object, iNyakatho kazibuthe for Magnetic North; etc.* In addition, isiZulu makes extensive use of *prepositional phrases*, particularly for *qualifying* or describing things, e.g. *magnet* would be *of magnet*, *grid* would be *of a grid*.

IsiZulu replaces hyponyms used in the source language with hypernyms, which is one of the reasons for dilution or loss of meaning in the translations. For example, *Into (thing)*, *indlela (direction, way, means)*, *yiqiniso (true, correct, truth)* etc. are all very general, non-specific terms. This allows flexibility of choice for the translators, which is not necessarily appropriate for scientific or technical discourse that requires specific terms. The term *object* is generalized to *-nto*, which means *thing*. However, *object* in the second primary translation is also over-specified by using a construction of *thing + qualifier into*

esetshenziswayo (thing being used). Therefore, it describes further the type of *object* by adding information which led to confusion and cumbersome translation.

The findings also revealed that it is difficult to find some equivalent key terms between English and isiZulu, e.g. *bearing*. However, in instances where translators were striving for 'equivalence', the translators used a borrowing technique and adopted the terms into the target language. Although Dlodlo (1999) does not encourage borrowing, either direct or adoptive, the translators in this study felt that it was helpful to borrow the terms which may be more familiar to the end-users. For example, *i-engili* (*angle*) was adopted; *geometric* was adopted as *yejiyometri* and the term *line* as *ulayini*. These borrowings did not pose as many problems for the back-translators as the coined terms. Although this is a common term used and accepted in isiZulu, there is an original term for line which is 'umugqa' which was, in fact used by PT2. Contrary to what most of the interviewees said about their preferred method (coining) when translating technical documents, they admitted that using a borrowing method would have made it easier for the back-translators to understand.

Paraphrasing terms was another method used when translators faced difficulties. For example, the paraphrase of the term *geometric* as *ngokulinganayo ngobukhulu* could not be retrieved by the back-translators as *geometric*. Instead it was translated by BT1 as *same measurement in size*. In other words, paraphrasing was not a helpful method as some back-translators resorted to word-for-word translations which often made little sense.

In some translations, the back translators' choices deviated from the primary translation. For example, in clause 2, the first back translator chose the wrong preposition *under*, which was not used in the primary translation; the fourth back translator for clause 2 has the term *atmosphere* instead of *air*; *the line of the direction* is translated by the BT 1 as the *directional line*. This shows that back translators did not only rely on the resource books but they also made their own choices, which however, did not necessarily retain the core meaning of the primary translation or the original text.

It is therefore important that translators have knowledge of the subject field to be translated with knowledge of specialized terminology, and should know about translation strategies especially in relation to word coinage and borrowing. Most importantly, a translator should be accredited because that translator would need to be professional.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

This study revealed that translatability is possible between English and IsiZulu though there were instances where translators struggled for equivalence which resulted to inappropriate selection of lexical items and the paraphrasing of terms that led to confusion and underdifferentiation of terms. Some translations showed evidence of translations techniques (Baker 1992; Vinay and Darbelnet 1995) such as borrowing, literal translation by the back-translators and adaptation. Some translators used generic terms to convey meaning because the target language lacked specific terms. It is therefore concluded, as Dlodlo (1999) maintains, that Nguni scientific terms need to be better developed in future.

Although SFG revealed that the functional analysis stayed the same between non-cognate languages, the changes that occurred were caused by a shortage of available equivalents. It is therefore recommended that bilingual dictionaries should be revised and republished as the translators indicated that they were not helpful because they only provide roots of the terms and multiple prefixes and suffixes (see *ibombo* on page 49). There is thus a need for monolingual dictionaries that are richly contextualized and clearly explanatory in terms of syntactic structures.

Another recommendation is that translators should attend translators' workshops and practise new techniques introduced in terms of translation processes and strategies.

Moreover, they should update themselves on the newly developed terminology for all educational and other specialised fields. This will be helpful because subject knowledge of various genres and disciplines is essential for translation work. Many of the translators in this study and in Wildsmith's (2008) study had had experience of translating a wide variety of text types including religious texts as in the Bible, legal discourse, medical discourse and other types of technical discourse.

Translators also need to provide a *glossary of terms* when a term is coined in order for the readers to refer to them and to avoid loss of meaning in back-translations. Coined terms should be standardized in order for the translators to use them in other translations. By doing this, the terms in isiZulu will be developed.

The question is, is it possible to develop experience in all these areas to the same level, i.e. by developing subject knowledge? One recommendation in order to improve professionalism in translation work is for translators to specialize in certain types of discourse.

It is hoped that this study will help translation units better understand the difficulties translators face so that translator training may be improved and new terminology developed by researching and creating new terminology appropriate for use in specialised fields. This will then provide an impetus for and the standardization of new terminology.

This was a small research study using only a small sample of primary and back translations in one subject field. It focused on one African language out of 9 official African languages in the Republic of South Africa. More research should be done if African languages are to become languages of learning.

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TRANSLATED TEXTS

Original text (ST)

A bearing is a direction which is determined by an angle. It refers to a direction on the ground, or in water, in the air or on a map. This angle is measured between imaginary line pointing towards North and the line of the direction of the object. It may be a true (or geometric) North, magnetic north or a grid north. The size of this angle describes the actual direction of the object.

Primary translation 1

Ibombo yindlela okubonwa ngayo i-engili. Isho indlela ephansi, esemanzini, esemoyeni noma ekubalazwe. Le engili ikalwa phakathi kolayini owumcabango okhombe ngaseNyakatho kanye nolayini wendlela yento. Kungaba yiqiniso (noma ngokulinganayo ngobukhulu) eNyakatho, enyakatho ngokukazibuthe noma enyakatho ngokwensimbi enezikhala. Ubukhulu bale engili buchaza indlela okuyiyona yento.

Back-translation 1

The ridge is a means in which the angle is measured. It means a direction down below, under the water, in the air or on the map. This angle is measured between imaginary line pointing to the North and the directional line of the object. It could be correct (or of the same size) in the North, North according to the magnet, or north according to the perforated iron/metal. The size of the angle describes the direction which is the real object.

Back-translation 2

Directions the way in which an angle can be seen, It is about a downward direction, in the water, in the air or on a map. This angle is measured within imaginary lines which point towards the North. And lines of the direction of a thing. It can be true (or the same measurement in size) in the North, northwards according to a magnetic direction or northwards according to the iron with spaces. The greatness of this angle describes/ explains the reality of a thing is.

Primary translation 2

Ibombo yinkombandlela etholakala ngokusebenzisa igumbi. Lisho inkombandlela ephansi emhlabathini, noma emanzini, emoyeni noma phezu kwebalazwe. Leli gumbi lilinganiswa ngaphakathi komugqa ocatshangwayo okhomba ukuya eNyakatho kanye nomugqa wenkombandlela wento esetshenziswayo. Kungaba yiNyakatho eyiqiniso (nom yejiyomethri), inyakatho kazibuthe noma inyakatho yegradi. Ubukhulu baleli gumbi buchaza inkombandlela yangempela yaleyo nto yokwenza.

Back-translation 3

The tip range is the direction which comes about to the use of the corner. It means the direction on earth, or in the water, in the air or on the map. This corner is measured in the imaginary line pointing to the North and the line of the direction of the things being used. It can be the real North, a magnetic north or grit north. The size of corner explains the real direction of what is being used.

Back-translation 4

Ibombo is the indicator which is found by using an angle. It refers to the indicator on earth, or in the water, in the atmosphere or on the map. This angle is measured in using imaginary line pointing north and the line of indicator of a used things. It can be true north (or geometry), or can be the north of the magnet or of the north of the grid. The size of this angle means a true indicator of that used thing.

INFORMED CONSENT FORM FOR PRIMARY AND BACK-TRANSLATORS

Dear Participant

I am a student at the University of KwaZulu-Natal, Pietermaritzburg campus studying a Masters Degree in Applied Linguistics. The study examines the processes and strategies used in the translated texts from English academic texts into isiZulu academic texts. I am asking for your permission to use your translated texts for this study, which was translated in the NRF project led by Prof. R. Wildsmith-Cromarty of the School of Languages, Literature and Logistics.

INFORMED CONSENT FORM

(Please indicate your answer with an “X”)

1. Have you been adequately informed about the research? Y/N
2. Have you had the opportunity to discuss further questions with the researcher? Y/N
3. Do you understand that a decision not to participate will not result in any form of disadvantage? Y/N
4. Do you understand that your participation is voluntary and that you are free to withdraw from the study at any stage and for any reason? Y/N
5. Do you understand that any data and information you provide on the semi-structured interview will be treated as confidential? Y/N
6. Do you grant the researcher a permission to use your data? Y/N

Signature: _____

Date: _____

For further information please contact Ms Phakamile Ntshangase-Mtolo (Researcher), University of KwaZulu-Natal, Cell: 0733179762 or Professor R. Wildsmith-Cromarty, School of Languages, Literacy and Logistics, University of KwaZulu-Natal (Pietermaritzburg). Telephone: (033) 2605548

Questionnaire

Background and profession

1. Name and Surname
2. What qualifications do you have?
3. Did you major in a language? Specify
4. What is your career? Describe the kind of work you do.
5. Do you ever attend any workshops or courses for translators? If, yes where and how frequently?
6. What kind of documents do you translate and how many in a month?
7. What kind of documents are easy to translate and what kinds are difficult to translate and why?

Translation processes

8. In cases where a term does not exist in a target language, what strategies do you use to convey the source text meaning?
9. How often do you use a dictionary? Do you find dictionaries useful? How?
10. What other sources besides dictionaries do you depend on when translating?
11. In what way can terminology be developed and standardized in isiZulu?
12. Dlodlo (1999) finds “borrowing” an unacceptable strategy of translation because it is meaningless in the daily life experience of African language speakers. What is your view on this statement? Do you agree or disagree? Specify
13. What strategy between borrowing and coining do you prefer? Why?

14. What is your point on the debate on whether isiZulu can be a medium of instruction in the education field? Do you think it is possible? Specify
15. In order for a language like isiZulu to be a language of MOI, what do you think needs to be done to achieve this?
16. What skills or tools do you think a translator should acquire in order to complete a true representation of the source text?
17. How would you describe a good translated text?

INTERVIEWS

Interview with PT1

PT1 profile

Ngiyabonga kakhulu ngokunika leli thuba lokuba ngihlangane nawe. Igama lami nginguPhakamile. NginguMaNtshangase-Mtolo. Ngenza i-research ebheka i-translatability of English Academic Text into isiZulu as an Academic Text. Lokhu kusukela kulawama-debates akhona manje on African languages as languages of instruction. Ngiyisitshudeni sika XXX, ngenza i-Masters manje.

Kade umenzele itranslation yakhe, mina engixile kukona u-text 3. Imibuzo yami iyimikhakha emithathu. Ngibheka ama-translation process and strategies asetshenziswayo uma u-translator. Angibheki ukuthi i-translation i-wrong noma i-right yini.

Wena ungumhumushi? Into eyenza ngibuze yilesi sistatement osishilo PT1- sokuthi awubuki ukuthi umuntu uqeqeshiwe noma qha. Sengithi ukuze ukwazi ukukwenza lokho kumele ube umuntu okuqeqeshelwe lokho. Kufanele kube ukuqeqeshelwe uyakwazi, othisha bakho bakwazi ukukukhombisa ukuthi lesi isihumusho esihle kodwa uma ungaqeqeshwanga, angeke wakwazi ukugxeke noma ngokwakhayo. Kodwa-ke sengiyathola ukuthi uqhamuka kumuphi umkhakha

Researcher – Ngiyakwazisa ukuthi igama lakho will remain anonymous, ngizosebenzisa i-code ethi primary translator 1. Imibuzo yami ihlukene kathathu, eyokuqala ibuzwa ngawe

nokusebenza kwakho, eyesibili ibuza about general knowledge on translation processes
bese eyesithathu igxila la.

1. Primary translator 1
2. MA in African Languages emikhakheni yocwaningo yeLinguistics, Ngenza i-
BPed at UDW manje esiyi-UKZN, ngenza i- BA Hon in isiZulu, MA.
Njengamanje ngifundela iziqu zobudokotela emkhakheni wokutolika (*currently
studying Phd in the field of interpreting*)
3. Kwi-Honours ngakhetha okukodwa, isiZulu ngoba ngasengifundisa imorphology
(I chose one language-isiZulu as I was teaching morphology).
4. Njengamanje ngiyi-Senior lecturer futhi esikhathini samanje njengoba wazi
siyashinstana ngokuphatha Umnyango, emva kweminyaka emithathu uyashintsha
kunikezwe omunye. Njengamanje ngiseyiNhloko Yomnyango Wolimi. Currently
senior lecturer futhi ngiseyinhloko yoMnyango oLimini lwezokuhumusha la e-
DUT.
5. YEbo, kakhulu futhi ngiyilungu lakwaSATI (South African Translator Institute),
ngisekomidini lala esifundazweni, ngingomunye wabaphethe isekela likasihlalo
wala, eskhundleni sokuthi ngiye njalo kuma Workshop siyaye sihlangane la
njengeNhloko yoMnyango, Okokugcina mhlazane u-SATI celebrated the 50th

aniverssary. I attend imihlangano workshops and seminar. Sengikhulume kabili la kulo nyaka, ngo-October i-University yase-Free State yangicela ukuthi ngizoba yisikhulumi se-International Translation Day, ngaphinda futhi u-Pansalb ehlangene noMnyango wakwa-Arts and Culture ngaba yisikhulumi futhi lolo suku lolo salugubha ngokuhlanganyela noPasalb sino-Arts and Culture ngoba ngiyaye ngizame ukuthi ngikwazi ukukufundisa konke lokhu. Bayangibiza abantu ukuthi ngizoba yisikhulumi kanti angicini lapho, abanye othisha ngiyaye ngibabize ukuthi bahambe ngoba angizukuhlale ngingumphathi njalo, nabo bangothisha abafundisa ukuhumusha bayathanda ukuthi baye kulezi zindawo.

6. I am a free lancer, ngihumushela iminyango kahulumeni eyahlukahlukene. Njengelungu lakwa-SATI ngi-accredited. Uma ungena nje kudatabase uzolithola igama lami. (*I translate for various department. I am an accredited translator and interpreter and in a database for SATI.*) Litholwa lapho igama lami kanti uma ngabe abanye beshaya ucingo befuna i-translator KwaZulu, igama lami liyaye liphakame bese ngiyasho ukuthi ngiyaphumelela noma angiphumeleli (I get recommended by SATI), ngiyaye ngisebenzele nalo mnyango ngisebenzele bona.

Researcher- Uyakuthanda ukuhumusha? Kuyinto oyenza njalo?

PT1 – Kakhulu. Ngisho ne-university iyaye inike mina imisebenzi yokuhumusha, ngisho noma kune-graduation kuvele kuthiwe uPT1, akushiwo nokuthi iNhloko Yomnyango, angazi bazokwenzenjani uma ngingase ngiyeke.

Kuyahluka kuya ngokuthi i-customer lelo lifunani, njengemikhakheni yezimali, ezempilo, ezobumeli, umthehto, izinganekwane, kuningi kokunye kufuna ngicabange ngisebenzise izichazamazwi. Kokunye bacele uthi ngisibuke isihumushe ngisi-review noma ngithole ucingo noma i-email kubuzwa ukuthi uma kuthiwa “we welcome you in Dbn” ukwenza nje isibonelo. Kuyahluka, cishe imikhakha yonke kodwa-ke engingavamile ukukwezna ukuhumusha izincwadi ezibhaliwe such as novels or short stories. Lokho angikwenzi ngoba kuthatha iskhathi eside, kodwa uma nginesikhathi ngingakwenza.

7. Umkhakha wezimali uyahlupha. Bese kuba yilo wezempilo njengabamakhemist, kuyaye kube yinselelo. Bese kuba khona imikhakha yo-science iyinselela kakhulu. Kumina akuyona inkinga ngingakwenza kodwa ngoba ngicabangela labo Bantu engibahumushelayo okuthi uma usuhumushile bese kubuzwa ukuthiwa “kuthini la?” Uma usebenzise itemu noma walakha noma walihumusha ubheka izinga lalabo abazofunda njengokuthi uma kuyizingane zesikole, ulimi lwami ngiyalixegisa, uma kuwothisha ulimi lwami ngithi ukuliqinisa kancane.

Translation processes

8. Kuyahluka angoba uma indlela ongayisebenzisa, uma itemu lelo lingekho ungalifaka ngesiNgisi kodwa ngifake unkamisa ekuqaleni kwegama njengokuthi i-computer, ngiyalibhala bese ngifaka i-hypen , noma ngiZululayize ngilibhale njengoba lilibiza, ikhompuyutha. Uma ngibona ukuthi abantu abazi kukuthi ikhompuyutha yini ngiyaye ngichaze ukuthi iyini (umshini obhala kuwona ubuke

okubhalwayo), noma ngiyaye ngifake imibhalo echazayo ngezansi (footnotes), Kokunye ngiyayiqamba kodwa izichazamazwi ezinye ziyahlupha, angisebenzisi esisodwa njengoba senza o-lexicography ziningi. Cishe zimbili zintathu ezesiZulu sodwa, ezesingisi nesiZulu, cishe ziningana nezesiZulu sodwa.

9. Kwizichazamazwi ngisuke ngingabuki incazelo ngisuke ngifuna ukubona ukuthi yiliphi igama engingalibeka khaxa. Kulezi zichazamazwi esisebenz akahle yilesi esikhangiswe manje. Kodwa-ke ezinye izichazamazwi zezilimi ezimbili baye bavele babhale uhlu lwamagama bese kuthi njengoMzulu uyazi ukuthi leli gama alisho njalo ngakho-ke aseke angiphoxa kakhulu, ngiyazisebenzisa kodwa angithembeli ngizethemba mina njengomuntu owasiqala ku-Grade 1 kuze kuye kuMA. Mina isiZulu ngiyasazi angidingi ukuthi ngize ngiye kobheka laphaya, mhlawumbe-ke abantu abangazange basifunde isiZulu bangathola inkinga kodwa mina ngenza ne-morphology anginayo inkinga kanti futhi ngiyakholelwa kwi-morphology (ucwaningomagama) ngafundiswa ukuthi igama lakhiwa kanjani kodwa-ke kumuntu mhlawumbe owagxila kwi-literature angeke aba emathubeni amahle afana nawami. I-morphology yiwona mkhakha wami.

10. Ekuhumusheni siyazana ikakhulu abangamalungu kaSATI, siyabuzana la ukuthi yimaphi amagama angena kahle khaxa. Ngake ngazama i-electronic dictionary manje isiZulu sakhona sivele sinhlanhlathe kakhulu manje ngaphoxeka kakhulu. Ngaphandle kwezichazamazwi ngiyaye ngixhumane nabanye abahumushi, e.g Dental Assisting ngakha amatemu, ngiyaye ngithinte abantu bakulowo mkhaka ngaphandle

kwabanye abahumushi ukuthi bangichazele kahle ukuthi baqondeni, ngoba ngesinye isikhathi akuwona wonke amagama anomqondo osobala. Uma kuwumkhakha wezemzimali ngiyashayele umuntu wakulowo mkhakha noma ofundisa kulowo mkhakha and Zulu speakers such teachers oMnumzane uMbatha, o-DBZ Ntuli yibona Bantu engixhumana nabo, labo asebemkantsha ubomvu.

11. Indela esetshenziswa NLB (National Language Board). Ulimi ngalunye ngalunye la eNingizimu-Afrika lune language Board yalo, isiZulu, isiNgisi, etc. Izinhlaka zika Pansalb ezintathu, Provincial Language Committee (PLC), National Language Board (NLB) kanye ne National Lexicographic Unit (NLU) , manje abantu abawabuka kahle amatemu, iNLB. NgseiZulu sebaliqama balibiza *ngomzuzakazwe*. Yibona abantu abagunyaza amagama.

Ekuwakheni nasekuwaqambeni kukhona isikhungo esethulwe ngoFeb. nguNgqongqoshe u-Weziwe Thusi LRDC. Language Research and Development Center esiholwa nguDokotela uKhuzwayo isizinda sayo Zululand university. BAqamba amagama bese bebiza ongoti kwezomthetho uma kuyibo abakulowo mkhakha, Dental assisting, etc. Angikwazi ukuqamba amagama bese ngiwasebenzisa kunezinhlelo zakhona ezilandelwayo. Njengamanje kukhona incwadi yeLRDC, isiyi ukuthi iyoshicilelwa enamatemu ami lawo engiyaye ngiwasebenzise.

12. Nginemibono ehlukehlukehene, ngiyacabanga ukuthi akazange afunde asabalale. Isingisi sidlondolobele ngoba seba esiGrikhini, nasesiLathini nakwezinye izilimi. So

kuhle kubi ngoba uma amatemu engekho bese i-target reader izolahleka uma ungezukuboleka. Ngakho kufanele ukuthi uboleke.

Ngingameseka uma ethi ukuboleka esiNgisini akukuhle ngoba lokho kwenza ulimi lwethu lungadlondlobali, manje angazi ukuthi uma eth uborrowing, mhlawumbe singathi uku-adopta. Kodwa engithandayo ukuthi thina njengolwimi lwesiNguni uma ngiboleka eMaXhoseni kuhlesiyaboleka ngoba lokho kudlondlobalisa ulwimi lwethu. Uma ubuka kwezinye izilimi njengabaSwana, sipedi, njengokuthi “ukugeza” in Xhosa uyazi ukuthi usho ukuthini.

13. Kungono ukuqamba kodwa kuya ngokuthi ubani omhumushelayo. Uma ngithi ngesendaweni esedolobheni bee ngikhuluma ngesibaya, ubulongwe, ngeke bakwazi konke lokhu manje ngingaqamba amagama ukuze izingane zazi kantu uma ngizokwazi ukuthi ngiboleke kokunye hhayi konke kodwa kuya ngokuthi uhumusha into enjane nokuthi uhumushela obani.

14. Kungenzeka akukho okungeke kwenzeke. Ngifundisa othisha bakwi-Dental Assisting ngoba bayabona ukuthi manje uma ungakhuluma nengane ngeke yasizwa ukuthi sithini. Kuzothatha isikhashana kona ngoba kukhona okumele kufundwe abahumushi. Kukhona izimfunda makhwela kodwa kona kusazothatha isikhathi/. A,mabhunu aqala kwa-A. Uma wona akwazi ukwenza ulimi lukhule thina singahlulwa yini ukutih nje thina sisadungeke imiqondo. Njengoba kwakushiwo ukuthi people wecolonised kuningi ukudungeka komqondo kwabantu abangazi lutho

nomkhakha wokuhumusha. Amazwe angaphandle ikakhulu amazwe ase-European countries, bafunda ngezilimi zabo abafuni ukufunda ngesiNgisi. Uma lawo mazwe ekwazi ukufunda kanjalo, thina singahlulwa yini, ukuthi ubuvila babantu. Abantu abadungeke umqondo okumele bafunde ngo-Ngugi ongumbhali odume kakhulu kabi.

15. Kumele kutholwe abahumushi abaqeqeshekile kuqala kube yibo abazohumusha izincwadi. Uma kungukuthi incwadi ibhalwe amanga ngomlando wethu, akutholwe ababhali babantu abaqeqeshiwe, babhale wona umlando wethu bangabhali ngesiNgisi kodwa ngolwimi lwethu. UKuze izingane uma zifunda zisuka le ku-Grade 1 zifunde ngolwimi lwesiZulu. Ngesikhathi ngise-Finland ngo-2005 ngiyokwethula iphepha, u Dr Nevil Alexandra, engakuthanda akusho kubantu base-Europe ukth i-Africa yilona luzwekazi okufundisa izingane zazo ngolwimi lwezi fini (foreign language) bese kuthi uma befika kkuma-Intermediate Phase they start learning other languages.

He wathi uyacela ukuthi u-FIT lokhu abakwenza ne-European Union abakwenze ne African Union. Ziningana izinhlelo ezingenziwa uma singahlala phansi sibe munye

16. Ngicabanga ukuthi kumele azi ulwimi, uma ungalincelanga hamba uyoliqala uyolifunda. Uma ukhuluma izilimi ezimbili akusho ukuthi ungumhumushi, e.g. kwacelwa abantu ukuthi bahumushe badidanisa ucwaningo bathi kuzoba nocwaningo mabhuku, kwaze kumele ngiyochaza, i-Audit isho ucwaningo mabhuku, i-research isho ucwaningo. Kumele abantu baqeqesheke bese kodwa balwazi ulwimi. Sino-SATI othi uma ufuna ukuba umhumushi onohlonze kumele

ubhale isivivinyo sabo, ngakho uma ungakwazanga ukuthi ukwezne lokho esikhungweni semfundo.

Ukufunda isiZulu ugxile kuma-Literature ngeke ukwazi ukuhumusha, uzogcina ngokufunda ngoDBZ Ntuli kodwa uma uzimisele kumele wenze i-morphology, noma i-syntax, pragmatics, are important.

17. Yilo edlulisa kahle umbiko uma umutnu okuqashile ukuthi umhumushele ethi uyayizw leyonto lokho kuhumusheke kahle. Abantu benza iphutha lokuthi uma igama negama lihumushekile akusiwo ukuhumusha okuhle lokho. Ngiyazenza nezihumusho zesiSotho, njengensipho nje *ukwenza isibonele, insipho imtolo does not only remove stains it also refreshns, imtolo ayisusi nje amabala iphinde inuke kahle*. Kwabangwa lokho ngoba kuhunyushwe kwathiwa *ayisusi*. Kokunye umuntu uyaye asuse umusho esiNgisini *I may leave tomorrow. (Nakusasa ngisengahamba)*. Umqondo oqukethwe ukhona kodwa umuntu ongaqeqeshekile kahle angakubona lokhu kungekuhle. IsiSotho nesiNgisi sicishe sifane.

Interview on translation

Clause 1

1.1 How did you come up with the term “*ibombo*” and what does it mean?

A. *Ngicabanga ukuthi ngasebenzisa ukuqamba noma ukubuka isichazamazwi, cishe ngabuka igama esichazamazwini ngoba isichazamazwi zibuye zibeke amagama nje. Bearing ngayisusela ku-Dictionary ngase ngikhetha elebombo ngoba kulula ukuthi abantu basheshe baliqonde ukuthi lithini. Yilona gama*

engabona ukuthi liyenzakala ngoba angisibonanga isidingo sokuthi I ngiye kumuntu osebenza kulowo mkhakha. Cishe ngashaya ncingo nomunye umhumushi savumelana ngegama, cishe ngathita umutn

What resources did you use to find this term?

Dictionary

1.2 If someone else had to back-translate the term “*ibombo*” into English, do you think the back translator would understand or find the term easy to translate? If yes/no explain how.

Kunganzima ngoba umuntu angayithatha ngokuthi i-direction kodwa uma ungabheka icontext angabona ukuthi lichazani. Kodwa akulona itemu elilula

1.3 You translated the term “*determined*” as “*okubonwa ngayo*”. Why did you choose this phrase?

Ngithe uma ngifunda ngathola lowo mqondo ngoba ngesiZulu alikho igama elingakwenza lokho. Ayikho enye indlela engiyichaza ngayo esobala

1.4a A reader may understand this term provided in Zulu as ‘*measured*’ or ‘*can be seen*’ . What other term in Zulu do you think retain the meaning of “*determined*” without any confusion?

Alikho engingalicabanga

Clause 2

2.1 The phrase “*on the ground*” is translated in isiZulu as ‘-phansi’. Why did you choose this term?

Akukho okunye ngoba uphansi yilona gama ayikho enye indlela ebengingahumusha ngayo, bengingathi izinga eliphansi, uphansi angasho into engezansi noma asho la engithinta khona.

2.1a According to Dent and Nyembezi’s English and isiZulu Dictionary (1969), the term ‘-phansi’ means ‘beneath, below, down, lower end’ but not ‘ground’. What other alternate terms would you use to retain the meaning of ‘ground’ meant in the original text?

UKuthi lawa amanye amatemu ukuthi abantu babevame ukujabulisa abelungu. Njengoba bengisho ukuthi bona abelungu baphakeme abantu baphansi kdowa kuya ngokuthi abantu bathini Kodwa uma ungabheka ukuthi abantu bathini kwakunokucwasa bese nezifundiswa zazazi ukuthi ulimi. Angiboni ukuthi kokunye babecabanga ngendlela efanele.

Clause 3

3.1 The term “*engili*” (angle) is borrowed from English. Why did you choose to borrow than to coin a new term for this?

Leli langithatha iskhathi ngoba ngathi uma ucabangela ingane, ukuchaza ukuthi i-engili iyini abayazi kanti othisha basebenzisa I-angle uyayazi, Usengachazela izingane ukuthi lisho ukuthini.

3.1a. If you were to coin this term “*angle*” how would you do it? What will you look at to come up with a new term or what strategy would you use to coin a new term?

Okokuqala mhlawumbe isichazamazwi, kodwa ngeke sangisiza kanye nokuxhumana nomuntu wakulowo mkhakha. Okunye ukuxhmana nomuntu qavile esiZulwini.

3.2 In your translation you translated the term “*line*” as “*ulayini*” which is a borrowed term from English. Is there any other term in isiZulu besides (*ulayini*) that means “*line*”? In isiZulu there is a term “*umugqa*” which means line. Why did you choose the borrowed term instead of the original term provided in isiZulu (*umugqa*)?

Ujenga, kuya ngokuthi uhumushela obani kodwa uma ukhuluma nabantu abadala bangakuzwa. Umugqa kuvame ukuthi lisetshenziswe ngoba phela uma uhumusha ziningi izinto oziqikelelayo kuya nangokuthi yiliphi igama elifike kuqala.

3.3 The term “*object*” in English is not a specific term which means it may mean anything depending on a context. In isiZulu you translated “*object*” as ‘*nto*’ which also means “*a thing*” and is more general than the term ‘*object*’. What other terms in isiZulu do you think can be used to retain the meaning of “*object*” in order for a reader to understand that the term ‘*-nto*’ actually means “*object*” rather than “*thing*”.

Angazi mhlawumbe kungaba yiyo into noma okuthile noma okungaziwa kungaya ngokuthi umusho uthini.

Clause 4

4.1 In your translation of “*a true (or geometric) North*” you have “*yiqiniso (noma ngokulinganayo ngobukhulu) eNyakatho*”. Please explain how you came up with this phrase in brackets.

U-true usho into elinganayo kodwa bengichaza ngoba angizange ngithole igama elilodwa elifanele esiZulwini ukuze umuntu lowo achazeleke ukuze azi ukuthi yikuphi engikushoyo. Uthisha angashesha alizwe kungengane.

4.1a What resources did you use?

Ngazakhela mina ngiyacabanga ukuthi ngangiyoba sesimweni esihle ukuba ngaxhumana nomunye ungoti.

4.1b What other alternate terms can you use for the term “*geometric*”?

I don't know may be ngingamzululayisa o ngifake i-hyphen.

4.1c As a translator, what else do you think you could have done to make it easy for a reader to understand that the paraphrase in brackets means “*geometric*” in English?

May be ngingalenza libe yi-hyphen noma ngilenze libe yigama elicompound, kunokuthi ngonge indawo.

4.1d You have translated “a true North” as “*Yiqiniso eNyakatho*” which is back translated as ‘*a truth in the North/ correct in the North (bt1)/ true in the North (bt2)*’. Can you explain what happened in this phrase and what did you understand by this phrase.

Angibazi ukuthi bayithathe kanjani itru eNorth ngoba mhlawumbe ukube bebethe inyakatho yangempela bebengasho kanjalo. Angazi kuya nangokuqeqesheka kwabo.

4.2 A “*magnetic North*” is translated by you as “*eNyakatho ngokukazibuthe*”. Why did you choose to translate it like this and what resourced did you use for this term?

Into eyimagnet uzibuthe so bengenza ngiyacabanga i- literal translation.

4.2a The translated phrase mentioned above was back translated as “*North according to the magnet*” (bt1) and “*Northwards according to a magnetic direction*” (bt2). What made you decide to use the connector (-*ngoku-*) than to say “*iNyakatho kazibuthe*”?

Bengingeke ngithi inyakatho kazibuthe ngoba bebezoyihumusha ngenye indlela.

4.3 The term “*grid*” is paraphrased in isiZulu as “*ngokwensimbi enezikhala*” in which readers may translate it as “*iron with spaces*” or “*perforated iron/ metal*” (bt1). Please explain how you came up with this phrase and what resourced did you use?

Ngazicabangela mina ukuthi uma ngibuka into eyi-grid izitamkokho zinensimbi enezikhala. Ayikho enye indlela ebengingayisebenzisa akudingaka ukuthi ngibuze

4.3a Are there any other alternate terms that could be used to translate “*grid*” in isiZulu? What are they?

Ayikho

Clause 5

5.1 The term “*actual*” in English is translated into isiZulu as “*okuyiyona*” and is understood back into English as “*real/ reality*”. What resources did you use to find the term provided in isiZulu?

Kungaya ngomusho ngingasebenzisa okuyilona lona kuya ngokuthi umusho ume kanjani.

5.2 With regard to isiZulu terms that are not as specific as in English, e.g. “*bearing, geometric, grid and actual*”. What do you think can be done in isiZulu to prevent loss of meaning?

Angazi ngicabanga ukuthi kufanele ukuthi uthisha ofundisayo kube uthisha oqeqeshekile, noma uthisha angasabi ukuthi angazi. I always encourage abantu ukuthi basho ukuthi abazi then babuye nezimpendulo ngakusasa, or consult other people. Uthisha angasebenzisi itemu ngendlela engafanele.

Thank you for your contribution and for your time.

Interview with BT 1 and BT3

Background and profile

1. Back-translator for PT1 and PT2
2. BA, BED, Da Honours
3. IsiZulu
4. Teacher by profession, now at tertiary level
5. Yes, depends if the workshops I go to those I know
6. I translate different documents from deferent companies, government department when there is job available. May be a year 4/5
7. There are documents in everyday language, the difficult ones are technical specific to fields

Translation processes

8. The best thing is to understand what that terms really means, once you understand, describe what it says, then you simply paraphrase it, translate what it says put it down but if I coin a word has to be bracketed so that the reader understands
9. I use it
10. Consult other people in the field
11. That is a difficult question to answer, to develop you pick up a word from source language, list them, find a document try to get a definition then you have to think what that could be in isiZulu, what word can you give to that concept. Once I

have done that I have to go to other forums like the IsiZulu National Language Body, if they agree with what I say than it is standardize.

In what ways can terms be standardized?

- 11a. There is a way of doing that, once a term has been submitted to the isiZulu Language Board, the Zulu Language Board will then publish those terms, the compile a book and make it available for public use. Those words will be picked by the lexicography unit that will now publish a dictionary.
12. To me it is dangerous, the borrowing makes it easy for readers. Borrowing to me, is important but once there is a term that is coined an equivalent to the English one, I put a term that is coined first and than bracket the borrowed ones.
13. I would prefer the coined words if they are very specific but where I suspect that the understanding is difficult, I prefer the borrowed for the transfer of meaning. IF meaning is transferred easily with a coined word I use it. But what I want to see is how wide spread has the coined word accepted.
14. It is possible depending on the foundation of your Zulu, what kind of Zulu you have, if Zulu is used by the people who speak it even at home I see no problem. The question is how can it be used for the person who is not the speaker of the language at home, then it is a problem. That is why I speak of a background.
15. The first thing is to develop the vocabulary that will be appropriate for the subject, once that has been done we need to be sure that the books are there written in the very same language to be used. But here we are dealing with the Non-mother tongue speakers and Mother-tongue. You have to provide with terminology. With the non –

mother tongue speakers you have to make sure that they have good knowledge, you can't teach a non-mother tongue speaker at tertiary level to understand the African language as the MOI but if they started Zulu at the beginning than it can be done because by then they would have developed the language.

16. That is very difficult. First you need principles as to what principles are involved in a translation. Training because the problem is nobody has trained you to do translation. What we need to do is there must be some workshops because a translator should understand that it does not mean translating the words in a sentence. They must be trained that translation means the understanding of what is being said. The syntax will have to change to the TL.

17. A good translated text is the one that has brought in it the feel of the TL because if that is not apparent in the text that is targeted, it becomes a dry translation.

Translation

BT1 of PT1

Clause 1

1.1 What did you understand by the term “*ibombo*”?

This was very difficult to translate but I thought ibombo is a high place, lets say we talk about ibombo mountain. A high elevated place.

1.2 What made you decide to translate it as “*the ridge*”

I thought the ridge is the high elevated place, as I have mentioned earlier.

1.3 What resources did you use to find the translation of this term?

I tried to use dictionaries and consulted. From the context we took it meant the ridge.

1.4 What were the alternate terms provided in the dictionary and why did you choose not to use them?

I don't remember

Clause 2

2.1 You have translated “*esemanzini*” as “*under the water*”. Why did you choose to use the preposition “*under*” instead of using “*in*” (*in the water*)?

You see I don't think isiZulu makes any different, if you say (esemanzini) it could be under the water or in the water

Clause 3

3.1 How did you come up with the term “*directional line*” and what does it mean?

Ngibheke ukuthi isho ukuthi I looked at what the concept should be. I could not find it in the dictionary. Ngabona ukuth kukhulunywa ngoGeography

3.2 What resources did you use for this term?

I thought I was using my knowledge of English as I understand it and there was no other tool to use.

3.3 In the isiZulu translation “*object*” is translated as “*yento*” (from *-nto*), which means “*thing*”. How did you know that the term “*yento*” refers to the term “*object*”?

I think it was easy as I say. You look at the sentence the phrase as it is, you apply your knowledge.

3.4 Do you think the term (“*-nto*”) is the correct or the right term to use for translating the term “*object*”?

The problem is in isiZulu everything is into. Let us try to get an equivalent, appropriate word for many things. Into has been used so much.

3.5 What alternatives do you think will retain the meaning of “*object*”?

I don't know, we will have to work on it.

Clause 4

4.1 The translation provided in brackets is a translation of the term “*geometric*”.

What could have helped you understand that the provided text in brackets refers to “*geometric*”?

The borrowed word comes in a Zulu way

4.2 The term “*Grid North*” is translated in isiZulu as “*eNyakatho ngokwensimbi enezikhala*”. What do you think the translator should have done or what term should the translator use in order for you to be able to retrieve the core meaning of the original text?

Borrow, or write as it is.

Clause 5

5.1 The isiZulu term “*okuyiyona*” is back-translated by you as “*real*” and the term that is provided in the original text that has been translated is the term “*actual*”. What terms could have been provided in isiZulu for you to see that the translated term refers to the term “*actual*”?

I could not use any borrowed word here. I would have tried to translate actual as one could have done because Zulu does not have different nuances but it does not mean that it is less expressive.

5.2 The phrase “*actual direction of the object*” is translated into isiZulu as “*indlela okuyiyona yento*” and this phrase in isiZulu is back-translated as “*the direction which is the real object*”. What made you link real (actual) to object rather than to direction?

I don't remember, I can't say. That sentence number three iyona that influenced my translation of my last sentence, I don't know.

Interview with BT2

1. BT2 of PT1
2. Masters in IsiZulu
3. English and Zulu
4. Lecturer isiZulu, especially Non-mother tongue and mother tongue focusing on
folk law and oral literanture and translation
5. Not really, long time ago
6. All kinds, from publisher staff by Longman, manuals. School related staff, health
related Department of Health, HIV/Aids staff, international students work who are
also interested of the same studies, mother to child infection, lots of translation
environmental translation, biodiversity staff, surveys on housing, chemical
companies translating testimonies of people.
7. Difficult- technical things like environmental documents, St Lucia worklands, you
really need a dictionary to use not bilingual but some other dictionary. Documents
that have nothing to do with your academic line, those are worse for me.
Geographic documents. Others are very easy, familiar subjects are easy. Foreign
from your fields are difficult because they need a vocabulary that is specialized.

Translation processes

8. Try and translate it as close as I can. I still prefer to use inverted commas and
transfer to a SL for a person to understand.

9. Rarely, I don't depend on a dictionary. I use it ngoba ngifuna ukubona ukuthi igama lithini (*because I want to check the meaning of the term*) to avoid paraphrasing. I look for specific terms.
10. My colleagues, I consult with colleagues, and my sister who is a consultant.
11. I am not into developing field, but it is a long way because isiZulu (*that we speak, is not the same*) esikhulunywayo asifani. I cannot come with one suggestion, maybe institutions of higher learning need to develop starting from micro to macro. E.g handbooks of Human Sciences find how to translate.
12. I do not agree with him because in Zulu kukhona amagama akade engekho (*there are terms that were non-existent*). I don't see why he makes it an umbrella statement. Nothing pure about a language. As culture is not static we will automatically take from other languages, e.g maths, or biology field. As long as you are intellectually intelligible, the key is ukuzwana (*to understand one another*).
13. Borrowing because it is familiar to people, coining whose coining is correct and who is right. There is nothing wrong with that e.g *AIDS ingculaza*.
14. Not now, in long future yes. Obani abazobe befundisa futhi befunde nini lawamanye ama-disciplines (*Who will do the teaching and when will they study other disciplines?*) e.g Psychology, it is possible but not now. It will take ages because there are resources to develop.
15. Need to involve all other stakeholders, subject matter, involve translators, media, people who will be affected, It is huge scale which involves society, teachers from primary.

16. Major in source language and know the field. A person must be bilingual must have specialized in those languages, theories governing languages. Specialize in both languages.

17. The one that doesn't move further away from the original. Not 100 percent as long as sense is still the same.

Translation

Clause 1

1.1 What did you understand by “*ibombo*” and why did you choose to translate it as “*direction*”?

These are the kinds of translations I was referring to because that was a strange isiZulu; I was assisted by the dictionary. This is a specialized document, I can't really think.

1.2 What resources did you use for this term?

Dictionary

1.3 What other alternate terms were available for this term?

I wouldn't know

Clause 2

2.1 In the isiZulu translation, “*indlela ephansi*” refers to “*ground*” in the original and you have back-translated it as “*downward*”. The term “*phansi*” has more than one meaning. It means down, beneath, below etc. What could have helped you as the back translator to retain this term as “*ground*” like in the original text?

Familiarity with the discipline, if you do not know the field I will translate as I see it and end up not doing justice to the translation because I do not have the knowledge such as being a geography teacher.

2.2 Are there any alternate terms that you can think of for the translation of this term “ground”?

Emhlabeni

2.3 What resources will you use?

Consult with other people

Clause 3

3.1 Why did you choose the preposition “*within*” and not “*between*”?

nothing much, anyone could be used.

3.2 “*Into*” in the isiZulu translation refers to “*object*”. What do you think would help translators translate this “*object*” as in the original text.

Lowo muntu can not have been a very good translator, skills of the first translator to do the job because the BT depends on the translated text.

Clause 4

4.1 In the translation provided in isiZulu, the term “geometric” has been paraphrased as “*ngokulinganayo ngobukhulu eNyakatho*”. What term in isiZulu would be more appropriate for “*geometric*” why do you think that term would be appropriate?

Ukusho ngesiZulu phecelezi geometric. Technical terms needs to be mentioned njengaku--source text.

4.2 The phrase provided in isiZulu “*eNyakatho ngokukazibuthe*” is translated by you as “*Northwards according to the magnetic direction*”. Please explain why did you choose this phrase and not say for an example magnetic north.

What is magnetic north? My previous knowledge angiyazi, my understanding of the words, for umuntu okuleyo field.

4.3 What resources did you use for this phrase?

My knowledge

4.4 The paraphrase provided in isiZulu “*ngokwensimbi enezikhala*” refers to “grid” and you back-translated it as “iron with spaces”. What could the pt have used for you to understand that the paraphrase provided refers to “grid”?

Nothing could have helped, I should have been well versed the discipline or specializing in that field would have helped me.

Clause 5

5.1 You have chosen to translate the term provided in isiZulu “*ubukhulu*” as “greatness”.

Why did you choose to use this term?

It was not like ubungako, size would be ukungako. Size can be big or small whereas ubungakho means greatness. For me ubukhulu is not size because size can be anything.

5.2 The term “*okuyiyona*” refers to “*actual*.” What terms in isiZulu do you think could be used to capture the meaning of “*actual*”?

Empeleni, eqinisweni.

5.3 What made you link reality (*actual*) to object rather than to direction?

I suppose it is the way I found it in the version I read. The first person misled me than I will mislead the readers because I am guided by the PT.

Background and profession

1. Primary translator 2
2. Masters in Linguistics
3. IsiZulu and Practical English
4. Head of Language Unit in SAPS
 - manage translators
 - translate SAPS documents, edit and proof-read documents in Nguni languages and other African languages such as Sepedi. I grew up in Mamelodi and I understand Sepedi, I can identify a mistranslation. I am not good in isiVenda.
5. Yes I attend workshops. I am a member of South African Translators Institute (SATI). The SAPS institutions pays for my membership as a translator, I am a member of African Languages Association of South Africa (ALASA), member of African Lexicographical Association (AFRILEX) and Pan South African Language Board (PanSalb). If there are any translation workshops or anything to do with a language, I receive invitations from the mentioned Associations. I receive invitations from AFRILEX which is about lexicography and compilation of terminology.
 - As SAPS workers, we are allowed to freelance, work as free lancers in order to develop our terminology database and not to work in isolation.
6. In the SAPS, we translate police related documents such as pamphlets on domestic violence, legal documents, questionnaires about geographic details of a

person, surveys for Statistics of South Africa. In a month I translate may be 6 or 7 documents of different kinds.

7. I find letters of complains easy to translate because they have a normal language that we use. Science laboratory documents are difficult to translate because they have difficult terminology and I tend to borrow or coin terms.

Translation processes

8. I check whether it is in English, check what the definition is in the dictionary and use that explanation used in the dictionary or I borrow terms for example, a term laboratory, I borrow it from English and use it as is; or I coin a term in isiZulu and at work we note all the coined terms in our database to use them again in future; I also *Zululize*, meaning that I take the term as it is in English for example terms that are about medical processes, terms of medical illness, especially those abbreviated terms like HIV/AIDS.
9. I use it most of the time. I check the meanings of terms for example term like law, regulation and rule use the same term in isiZulu which is *umthetho*. So in a dictionary I check meanings of such terms in order to use appropriate terminology and for the purposes of the readers to be able to differentiate that these terms have different meanings and not confuse them.
10. I use a dictionary, grammatical books such as *Inqolobane*, internet especially those website in isiZulu, I also use our work database that we stored in order to check the terminology used for a particular term I am looking for and I consult other people.

11. A translator can coin a term but the problem that exists currently is that translators do not meet to discuss terms they have developed. If there was a way as translators to meet and discuss the terms like the National Language Body under Pansalb where members meet and discuss developed terms and then standardize them, isiZulu terminology can be developed. The National Language Body also has problems with the development of terminology because they take time to standardize terms. They meet may be 3 times in a year and the members of this Body are people who are not working for Pansalb but for other government departments and when they meet they don't only discuss developed terms, they have other issues to discuss and this causes a delay in the standardization of terminology in African languages. It would be nice to have a body that sits may be once a month and discuss the developed terms and also give feedback to the translators.
12. Borrowing is acceptable because our language (isiZulu) developed after English and Afrikaans. For example, a term like television was not there in my culture as it comes with civilization. If I am going to coin terms from my knowledge of English and Afrikaans, it is easy to coin a term and relate it to cultures of these languages for example, terms like cellphone (*umakhalekhukhwini*) are contextualized. A person who coined this term considered that people put their cellphones in their pockets and that is contextualized, however, that is not always the case. We put our cellphones in handbags, for a person who does not know what *umakhalekhukhwini* (cellphone) is, that person will not understand the meaning of this term. Terms like laptops (*umathangeni*) are insulting to women, I

personally find them insulting. A laptop does not only sit on a lap, it is also put on a desk. For these reasons, borrowing is helpful.

13. I prefer coining if terms will be standardized. Sometimes you find that there are 5 terms coined for one term and that is problematic because if someone from KwaZulu-Natal has a different definition of a term or coined a term differently from that of a person in Pretoria, it becomes a problem when one person does not accept the definition or a coined term of the other person. Coining is best but if a person coins a term and that term is not standardized then it becomes a fruitless exercise.
14. Yes it is possible. As a Zulu person I learnt in isiZulu from Sub A up to Standard 5. I started learning in English when I was in high school. If it was done then, why not now. If isiZulu or African languages can be languages of medium of instruction, then it will be 100% ok.
15. The key is to change the mindset of the parents because they are the people who believe that English is a better language that puts food on a table. Parents are members of the School Governing Bodies, they can discuss why isiZulu is important when talking about a language of teaching (LOT).
16. A translators must have:
 - Command of isiZulu and English meaning that they need to have knowledge of both languages because if you only know one language, you cannot translate;
 - knowledge of linguistics or a translator must be a linguistic person who understands what translation is about;

- a qualification and be qualified and not standard 10 only;
- passion for languages, and
- teachers can also be translators.

17. A good translated text is the one that carries the meaning of the source text. If a translation does not carry the meaning of the source text, that translation should not be considered.

Translation

Clause 1

1.1. Please explain how you came up with the term “*ibombo*” and what does it mean?

*I think I took it from the dictionary. I considered that in Limpopo there is a term *ibombo* which means corners of the continent.*

1.2 What resources did you use for the translation of this term?

I think I used a dictionary

1.3 How did you come with the term “*igumbi*” as referring to the term “*angle*”.

I got it directly from the dictionary and I think I also used a science list of terms from National Language Services in the Department of Arts and Culture.

1.4 You have translated the term “*determined*” as “*tholakala*”. The back-translators translated the term as “*found*” and the other is “*comes about*”. What term do you think will retain the meaning of “*determined*” without causing any confusion to the readers?

If a person is back-translating, it is rare to find the exact meaning or terms of the original text. That is the difficulty we face in languages. A person who is reading will have to use his or her knowledge of the language.

Clause 3

3.1 The term for “*between*” is translated by you as “*ngaphakathi*”. The back-translators have back-translated this preposition as “*in between*”. What is your comment on this?

It depends on the level of understanding of the translators. If you go back into English “in between” is wrong, it is not there in English. However, a Zulu speaker will take the “nga-“ and say “in” and for “-phakathi” will say “between”, because that is how it is said in isiZulu.

3.2 How did you come up with the translation for “*object*” as “*into esetshenziswayo*”. Is there another equivalent for “*object*” in isiZulu?

No, there is no equivalent unless it is described what kind of an object it is. For an example, if a playing object then it is easy to explain. In isiZulu we have Subject, Object and Verb (SOV); object is something that receives the action, maybe we can call object as umenziwa (receiving action).

Clause 4

4.1 Why did you decide to use the borrowed term for “*geometry*” and “*grid*” than to coin new terms?

In the dictionary there is a long explanation of these terms, if I had used those explanations I would have confused the readers, so borrowing these terms was going to help readers understand what they mean. Geometry is a term that is familiar to people because it is a term from the area of learning in Maths and people know it as that (geometry).

4.2 The term used in the translation for “*geometric*” refers to “*geometry*”. What could have been done to retain the meaning of “*geometric*”?

Maybe a translator could say “ngokwejiyometri” or coin a term which carries the adjective meaning of geometry and identify the term as an adjective rather than a noun.

Clause 5

5.1 The term “*actual*” is translated by you as “*yangempela*”. This term has been back-translated as “*real*” and “*true*”. What term in isiZulu do you think can capture the meaning of “*actual*” without causing any confusion to the readers?

An alternative that comes to mind is “yoqobo” although the back-translators might still go back to “real” but the understanding of the content should also be considered by the back-translators.

Interview with BT3

BT3 of PT2

Clause 1

1.1 Why did you choose to translate the term “*ibombo*” as the tip range?

I don't know why, I cannot remember.

1.2 What resources did you use to find the translation of this term?

I use dictionary where it is available and I consult, or coined.

1.3 Were there alternatives provided in the dictionary?

I don't think so

1.4 You have back-translated “igumbi” as corner. Why did you choose this term?

I used a dictionary

1.5 What resources did you use to find the translation of this term?

One could have used ichopho

Clause 3

3.1 The term “*object*” is translated in isiZulu by the primary translator as “*into esetshenziswayo*” and is back-translated by you as “*things being used*”. What could have helped you as the back-translator to retain the term “*object*” as in the original text?

I don't know, may be it needs some explanation in brackets.

3.2 What resources should be used for this term “*object*”?

If the dictionary cannot give an appropriate direction to follow you have to resort to your own understanding of the concept. It is a problem with the language itself.

Clause 4

4.1 The phrase “*true north*” provided in the original text is translated into isiZulu by the primary translator as “*Yinyakatho eyiqiniso*” and is then back-translated by you as “*real north*”. What could have been done by the pt or by you in this phrase in order for you to be able to retain the term “true” as in the original text?

I think the primary translator or secondary translator, It doesn't seem that there is something else they could have done ngoba they had to follow the syntax they are used to because if you say it may be a true in Zulu awukwazi ukuthi uzothi what is a true north. U real no-true are they the same ngoba u-real is better for a place rather than true.

Clause 5

5.1 The isiZulu term “*yangempela*” that is provided in the translation refers to the term “*actual*”. You have back-translated it as “*real*”. What could have been provided in isiZulu in order for you to see that the translated term refers to “*actual*”?

I don't know as I think the PT said, true meant a fact and real meant an object

5.2 What resources could be used to find the term “*actual*”?

Dictionaries and thesaurus to get the English meaning where you use English dictionary.

That puts us to the end of the interview. Thank you for your time and for your contributions.

Interview with BT4

Background and Profile

1. BT 4 of PT2
2. Masters in isiZulu
3. isiZulu
4. Lecturer, grammar isiZulu, translation and literature
5. Yes, Santi chapters, once a yer
6. 2 documents in a year
7. Legal texts are difficult and easy ones are medical research documents, e.g informed concents about AIDS

Translation processes

8. Depends, idioms refers to SL cultural items with a TL cultural, paraphrase, substitution.
9. English dictionary rather than Zulu dictionary because you can translate from English into isiZulu. The isiZulu dictionary is not helpful because it does not give meanings of terms
10. Monolingual dictionaries. English or isiZulu if there are no relevant terms that refer to isiZulu.
11. Accept more terms from other languages, get Xhosa term rather than English but if there are no options than go for English terms and loan terms.

12. You can not do otherwise you need to borrow or not. *Isipuni* is standardized, you can not run away from that, even English has borrowed e.g *fundi*
13. Coining is not easy to do because you coin and other people may not accept it, if you coin a word you need to standardize it. I prefer borrowing because you can transfer terms of loan words e.g *i-computer*, *itafula* is domesticated form.
14. Yes, as long there will be translation that will be ok. Translation will play an essential role.
15. Translation, we can not use it as an MOI because we need interpreting and translation and then the staff has be encouraged to learn the African languages
16. Competent in both languages, the TL and SL and be able to translate and learn translation, exposed to translation
17. One which is natural, not word for word because word for word sounds more like a translation. If you read it must sound as it was original like that and not sound like a translation.

Other strategies, some omit a word, if a term loses meaning, you can add something or add a terminology which must not change the meaning of the text.

Translation

Clause 1

1.1 Why did you choose not to translate the term “*ibombo*”?

It is a Zulu word which I don't even know what it means.

1.2 What alternatives were available for the translation of this term?

None, because if there was I would put in brackets.

1.3 What resources would you use for the translation of this term?

Consulted Zulu dictionary, I would have done a research and consult people in the geography field because of this map and all this.

1.4 Why did you choose to use the term “*indicator*” for the translation of “*inkombandlela*”?

It is something that indicates, igumbi was confusing.

1.5 The term “*igumbi*” that is provided in the isiZulu translation refers to the term “*angle*”. How did you figure out that the term provided in isiZulu term refers to “*angle*”.

Igumbi is an angle. I used my knowledge sometimes you double check but I think I consulted a dictionary.

Clause 2

2.1 You have translated “*emoyeni*” as “*in the atmosphere*”. Why did you choose to use the term “*atmosphere*” rather than the term “*air*”.

I preferred it rather than air, it doesn't make any difference as such and I was thinking geographically because I could not understand the translated text.

2.2 What resources did you use to find this term?

Dictionary

Clause 3

3.1 The paraphrase “*into esetshenziswayo*” provided in the isiZulu translation refers to “*object*” in the original text. What could have helped you as the bt to retain the original term used in the source text?

It was not easy because she did not use the term, use a general word (into), consult dictionaries and then consult other translators.

3.2 What resources would you use for the translation of this term? (*already covered in above*)

3.3 What are available alternatives for this term?

Into then explain further the kind of an object one is referring to.

Clause 4

4.1 In the isiZulu translation, the term (*geometric*) is translated as “*yijiyometri*” and you have back-translated this term as “*geometry*”. What do you think could have helped the translator retain the original term “*geometric*” as provided in the source text?

Geometry is not available is isiZulu, so it used as an adverb. Transference would have helped, ibe jiyomethrikhi (domesticated form).

4.2 What resources would you use for the translation of this term?

Geography books or consults people or dictionaries

4.3 What are available alternatives for this term?

None because the term does not exist in isiZulu unless I find an English synonym which is close to this term

Clause 5

5.1 The isiZulu term “*yangempela*” is back-translated by you as “*true*” and the term that is provided in the original text that has been translated is the term “*actual*”. What terms could have been provided in isiZulu for you to see that the translated term refers to the term “*actual*”?

It could be okuyiyonayona, should have used a phrase yonayona.

5.2 What resources would you use for this translation of this term?

Bilingual Dictionary

This puts us to the end of the interview. Thank you for you time and your contribution.