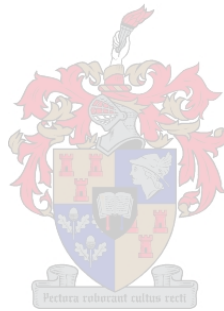


**Towards a Theoretical Model for LSP Lexicography in Ndebele with
Special Reference to a Dictionary of Linguistic and Literary Terms**

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Thesis presented in partial fulfilment of the requirements for the degree of



Master of Philosophy (Lexicography) at Stellenbosch University

Promotor: Prof. R. H. Gouws

December 2008

DECLARATION

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the owner of the copyright thereof (unless to the extent explicitly otherwise stated) and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

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ABSTRACT

Title: Towards a Theoretical Model for LSP Lexicography in Ndebele with Special Reference to a Dictionary of Linguistic and Literary Terms

This thesis discusses pertinent issues which should be taken into account in the production of LSP dictionaries in Ndebele. Special reference is made to a prospective Ndebele Linguistic and Literary Terms Dictionary, henceforth the NLLTD. The issues discussed include lexicographic planning, data collection, data processing, lemma selection, the provision of data categories and the utilisation of dictionary structures. The thesis demonstrates and emphasises the need for theoretical guidance in the execution of all lexicographic tasks. Two main theories are used to formulate a theoretical framework for this study. A general theory of lexicography developed by Herbert Ernst Wiegand is used to affirm the status of lexicography as separate from linguistics and other fields from which it draws theoretical and methodological insights. Lexicography is, according to Wiegand (1984), a scientific field concerned with the production of reference works on language. As a typical reference product, a dictionary is regarded as a utility tool with a genuine purpose. These two postulates of the general theory of lexicography enable lexicographers to carry out their tasks in a systematic and efficient way. The postulates are emphasised in the theory of lexicographic functions, which was developed by Danish lexicographers of the Aarhus School of Business, mainly under the direction of Henning Bergenholtz and Sven Tarp. Because of this, the theories are employed in a complementary way. Since lexicography is regarded by these theories as a separate discipline, it follows that the production of user-friendly dictionaries may not be guided exclusively by linguistic theories or other theories developed in disciplines with which lexicography comes into contact. It is important to reiterate this regarding terminological theories and special subject field theories in the case of LSP lexicography. The theory of lexicographic functions requires lexicographers to identify the target users of their dictionaries, and the situations in which the users may experience problems that may be addressed by means of lexicographic data. It determines dictionary typological choices, lemma selection policies, the provision of lexicographic data for individual lemmata, and the planning and utilisation of dictionary structures in a user-friendly way. The main motivation for the complementary use of the general theory of lexicography and the theory of lexicographic functions in this thesis was to ensure that efficiency is achieved on the part of the lexicographer carrying out his/her various lexicographic tasks and also on the part of the user consulting the final product. Although this is demonstrated in the thesis using the prospective NLLTD, the criticism of some published dictionaries indicates that their quality could have been improved if their production occurred under such a strong theoretical guidance. An attempt is also made to show that similar theoretical applications are definitely required in the production of LSP dictionaries other than the NLLTD in Ndebele and other languages.

OPSOMMING

Titel: Op weg na 'n teoretiese model vir TSD-leksikografie in Ndebele met spesiale verwysing na 'n Woordeboek van Linguistiese en Literêre Terme

Hierdie tesis bespreek tersaaklike kwessies wat in aanmerking geneem behoort te word by die produksie van TSD-woordeboeke in Ndebele. Spesiale verwysing word gemaak na 'n beoogde Ndebele Woordeboek van Linguistiese en Literêre Terme, voortaan die NWLLT. Die kwessies wat bespreek word, sluit in leksikografiese beplanning, dataversameling, dataverwerking, lemmaseleksie, die voorsiening van datakategorieë en die aanwending van woordeboekstrukture. Die tesis demonstreer en beklemtoon die noodsaaklikheid van teoretiese leiding in die uitvoering van die leksikografiese take. Twee hoofteorieë word gebruik om 'n teoretiese raamwerk vir hierdie studie te formuleer. 'n Algemene teorie van die leksikografie ontwikkel deur Herbert Ernst Wiegand word gebruik as bevestiging van die status van die leksikografie as apart van die linguistiek en ander vakgebiede waarvan dit teoretiese en metodologiese insigte verkry. Die leksikografie is, volgens Wiegand (1984), 'n wetenskaplike gebied wat hom besig hou met die produksie van naslaanwerke oor taal. As 'n tipiese naslaanprodukt word 'n woordeboek beskou as 'n nutswerktuig met 'n ware doel. Hierdie twee postulate van die algemene teorie van die leksikografie stel leksikograwe in staat om hul take op 'n sistematiese en doeltreffende manier uit te voer. Die postulate word beklemtoon in die teorie van leksikografiese funksies wat ontwikkel is deur Deense leksikograwe van die Aarhus Sakeskool, hoofsaaklik onder leiding van Henning Bergenholtz en Sven Tarp. As gevolg hiervan word die teorieë op 'n komplementêre manier aangewend. Omdat die leksikografie deur hierdie teorieë as 'n aparte vakgebied beskou word, volg dit dat die produksie van gebruikersvriendelike woordeboeke nie uitsluitlik gerig kan word deur linguistiese of ander teorieë wat ontwikkel is in vakgebiede waarmee die leksikografie in aanraking kom nie. Dit is belangrik om dit te herhaal met betrekking tot terminologiese teorieë en spesiale vakgebiedsteorieë in die geval van die TSD-leksikografie. Die teorie van leksikografiese funksies vereis van leksikograwe dat die teikengebruikers van hul woordeboeke geïdentifiseer word, en die omstandighede waaronder gebruikers probleme kan ondervind wat deur middel van leksikografiese data benader kan word. Dit bepaal woordeboektipologiese keuses, lemmaseleksiebeleid, die verskaffing van leksikografiese data vir individuele lemmas, en die beplanning en aanwending van woordeboekstrukture op 'n gebruikersvriendelike manier. Die hoofmotivering vir die komplementêre gebruik van die algemene teorie van die leksikografie en die teorie van leksikografiese funksies in hierdie tesis is om te verseker dat doeltreffendheid bereik is aan die kant van die leksikograaf wat verskillende leksikografiese take verrig en ook aan die kant van die gebruiker wat die finale produk raadpleeg. Alhoewel dit in die tesis gedemonstreer word deur die gebruik van die beplande NWLLT, dui die kritiek op sommige gepubliseerde woordeboeke aan dat hul gehalte verbeter kon gewees het as hul produksie plaasgevind het onder so 'n sterk teoretiese leiding. Daar word ook geprobeer om te toon dat soortgelyke teoretiese toepassings definitief benodig word by die produksie van ander TSD-woordeboeke as die NWLLT in Ndebele en ander tale.

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ABBREVIATIONS/ ACRONYMS

ALLEX Project: African Languages Lexical Project

ALRI: African Languages Research Institute

BEDIE: Bilingual (English-Sotho) Explanatory Dictionary of Industrial Electronics

COBUILD: Collins Birmingham University International Language Database

DDU: *Duramazwi reDudziramutauro neUvaranomwe* (A Shona Dictionary of Linguistic and Literary Terms)

DRM: *Duramazwi remiMhanzi* (A Shona Dictionary of Music Terms)

DUU: *Duramazwi reUtano neUrapi* (A Shona Dictionary of Biomedical Terms)

ISM: *Isichazamazwi SezoMculo* (A Ndebele Dictionary of Music Terms)

ISN: *Isichazamazwi SesiNdebele* (A General Ndebele Dictionary)

LGP: Language for General Purposes

LSP: Language for Specific Purposes

NLLTD: Ndebele Linguistic and Literary Terms Dictionary/ Ndebele Dictionary of Linguistic and Literary Terms.

NLU: National Lexicography Unit

NWLLT: Ndebele Woordeboek van Linguistiese en Literêre Terme

PanSALB: Pan-South African Language Board.

PND: *A Practical Ndebele Dictionary*

TSD: Taal vir Spesifieke Doeleindes

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CHAPTER ONE: GENERAL INTRODUCTION

1.0 Introduction

This study is in the field of lexicography. It considers some issues which are relevant in the formulation of a theoretically motivated model for LSP lexicography in the Ndebele language of Zimbabwe.¹ The model is intended to be general enough to make it applicable to several prospective LSP dictionaries in the language. As such, the study will make references to several LSP dictionaries, most of which are for languages other than Ndebele. However, special reference is made to a prospective Ndebele Linguistic and Literary Terms Dictionary (henceforth NLLTD) (see 2.4.1 and Chapter Four). It is hoped that working with a concrete dictionary in mind may be useful in clarifying various issues whose relevance will not be limited to that particular dictionary.

Modern lexicography is realised in two components, namely practical lexicography and lexicographic theory. The former is traced to several centuries ago (Al-Kasimi 1977, Osselton 1983, Hausmann et al. 1989, Gouws and Prinsloo 2005, Yong and Peng 2007). Since then, dictionary compilation methods have been changing. Consequently, dictionary formats have been changing in consonance with these transformations. Printed or paper dictionaries have dominated for a long time up to date. However, technological developments have resulted in dictionaries being produced and accessed through CD-Rom, the internet and a cell phone.

The second component of lexicography is a metafield of practical lexicography which is also called metalexicography (Wiegand 1984, Smit 1996, Hartmann 2001, Hartmann and James 1998). It is concerned with research on theoretical and methodological applications in dictionary making. This component is a late-comer in lexicography, considering that it developed during the second half of the twentieth century (Gouws and Prinsloo 2005: 1). Nevertheless, its rapid growth from the 1970s has significantly transformed practical lexicography and lexicography as a field in general. A more detailed exposition of

¹It is important to note that the Ndebele language spoken in Zimbabwe is different from South African Ndebele. This is further explained in 1.1.

theoretical lexicography is made in Chapter Three, but it should be noted that the entire thesis attempts to make a theoretical contribution to practical lexicography.

In metalexicographical literature, the term *LSP lexicography* is used for a variety of other terms, some of which are listed in Table 1. Adjacent to each term is the corresponding one for the dictionary type produced, for example *LSP dictionary* to *LSP lexicography*.

LEXICOGRAPHY	NAME OF DICTIONARY
Special-field lexicography	Special-field dictionary
Specialised lexicography	Specialised dictionary
Special-purpose lexicography	Special-purpose dictionary
Field lexicography	Field dictionary
Technical lexicography	Technical dictionary
Field lexicography	Field dictionary
Terminological lexicography	Terminological dictionary
Scientific lexicography	Scientific dictionary
Restricted lexicography*	Restricted dictionary
LSP lexicography	LSP dictionary

Table 1: Some terms used for LSP Lexicography and LSP Dictionary

All the terms listed in Table 1, except *restricted lexicography*, are used in textbooks, journals and dictionaries of lexicography, but in varying degrees. While some of the terms have misleading implications, it would be more confusing to talk of restricted lexicography as a clearly defined lexicographic activity. Mihindou (2004: 119; 122) indicates that restricted dictionaries encompass a variety of dictionary types ranging from those whose lexical coverage is restricted to particular special subject fields such as medicine and those whose lexicographic treatment of the vocabulary of a language is restricted to the provision of one type of data such as pronunciation. *LSP lexicography* will be mainly used throughout this study since it has been conveniently used in metalexicographic literature interchangeably with the rest of the other terms dealing with dictionaries treating vocabularies used in special subject fields. This will avoid giving the impression that the study is biased against the other terms without invalidating them by means of serious engagement with their implications. Such an undertaking is outside the scope of this study.

As a general exposition of the study, this chapter will provide a brief outline of the Ndebele language. A cursory discussion of the history of the language and a special emphasis on its role in the public sector, particularly in education, law and media has serious implications for LSP lexicography and lexicography in general. The history of Ndebele lexicography is also outlined as it informs both current and future lexicographic developments. The problem area which this study attempts to address is then explained, followed by the objectives, scope and justification of the study. A review of relevant literature is also made in this chapter to highlight the intended contribution of this thesis.

1.1 Background to the Ndebele Language

It is of utmost importance to consider the language in which corpus development activities, lexicography included, are performed. According to Zgusta (1971: 19), “most lexicographic problems seem to be brought about primarily by specificities of the concrete languages with which the respective lexicographic project is concerned”. Language-specific issues which may affect lexicography may be of purely linguistic, historical, social and political nature. In this section, some of the major language specific factors which may affect LSP lexicography in Ndebele, particularly the production of the NLLTD, will be highlighted.

Historical outlines of the development of the Ndebele language have been made by other writers such as Nyathi (1998), Hadebe (2006) and Khumalo (2003; 2003a; 2007). While it is well-known that Ndebele is a Nguni language, the fact that it is spoken as a major language in Zimbabwe while the other Nguni languages are mainly spoken in South Africa has made its status a bit controversial. One major controversy relates to the origin of the name *Ndebele*, which will not be pursued any further here because it does not directly affect the main subject of this study. More so, this controversy does not affect the way in which the language speakers use the language. As such, it does not affect any form of language development, lexicography included.

The other controversy that needs to be highlighted relates to the relationship between Ndebele and other Nguni languages. Contrary to Khumalo (2003a: 174), the language in

question is not the same Ndebele as the one spoken in South Africa, also referred to as *isiKhethu* (Taljaard and Bosch 1988). Mutual intelligibility between these two languages also seems to be lower than between Zimbabwean Ndebele and other Nguni languages, particularly Zulu. Hachipola (1998) estimates that Ndebele shares over 96% of its lexicon with Zulu while Taljaard and Bosch (1988: 1) also observe that “isiNdebele of Zimbabwe is very similar to isiZulu”. This is easily accountable for by the historical origins of the Ndebele state founded by Mzilikazi who was a chief under the Zulu king Tshaka. However, it cannot be easily ascertained “whether the language spoken by Mzilikazi and the original Khumalo clan that rebelled from Tshaka is Zulu or not” (Hadebe 2006: 30). The question of whether Ndebele should be regarded as a dialect of Zulu or a language in its own right stems from this relationship. Ndebele literary development has, up to date, severely suffered from this confusion. The teaching of Ndebele has been heavily relying on Zulu educational material for a very long time. Among other works, the materials have included Zulu dictionaries.

Lexicographic work in Ndebele has also suffered as a result of the language policy framework of the present day Zimbabwe. Although no written national language policy exists, it can be clearly discerned from language practices in various sectors of public life. English is the official language; Ndebele and Shona are national languages, while the rest of the indigenous languages are minority or community languages. English is clearly the official language in Zimbabwe following the occupation of the country by the British in 1890. It has ever been the language of government, the language of administration, the language of trade, the language of advertising and education, among the key public domains of life. Ndebele and Shona came to be regarded as national languages following their recommendation to be taught in all the schools in the Matabeleland and Mashonaland areas respectively by Clement Doke in a report which was commissioned by the Rhodesian government (Doke 1931). The criterion used to reach such a conclusion is subject to linguistic questioning which is, however, not relevant in this study.

As far as the official status of the languages spoken in Zimbabwe is concerned, references can only be made to the Education Act, Articles 13, 18, 82 and 87 of the

Zimbabwean Constitution. These pieces of legislature cannot be regarded as a national language policy since they are only there to guide education and legal practice. However, the language hierarchy which they display is notable in all public and formal sectors of Zimbabwean life.

According to Section 55 of Part XI of the Zimbabwean Education Act of 1987 (Amended in 1990), which is headed “Languages to be taught in schools”, the following provisions of language-in-education should be followed:

- (1) Subject to the provisions of this section, the three main languages of Zimbabwe, namely Shona, Ndebele and English, shall be taught in all primary schools from the first grade as follows:
 - (a) Shona and English in all areas where the mother tongue of the majority of residents is Shona; or
 - (b) Ndebele and English in all areas where the mother tongue of the majority of residents is Ndebele.
- (2) Prior to the fourth grade, either of the languages referred to in paragraph (a) or (b) of subsection (1) may be used as the medium of instruction, depending upon which language is more commonly used and better understood by the pupils.
- (3) From the fourth grade, English shall be the medium of instruction: Provided that Shona and Ndebele shall be taught as subjects on an equal time-allocation basis with the English language.
- (4) In areas where minority languages exist, the Minister may authorise the teaching of such languages in primary schools in addition to those specified in subsections (1), (2) and (3).

The vagueness and English bias of the country’s languages-in-education policy as entrenched in the 1987 Education Act has been discussed by the National Language Policy Advisory Panel (1998), Nziramasanga et al. (1999) and Khumalo (2003a). Here the focus shall be on its implications for LSP lexicography in Ndebele and generally lexicography in Zimbabwe.

Following the 1987 Education Act, Ndebele has always been taught only as an examinable subject and an alternative medium of instruction to English in the lower

grades of primary education in Matabeleland areas. At that level, pupils are taught to master the basics of the alphabet, vocabulary and grammar, both in reading and writing. The fact that English takes over as the sole medium of instruction from the fourth grade defeats the idea of equal-timetabling in language teaching because while pupils learn all the other subjects, they do not only learn the content but the language as well.

The study of Ndebele as an academic subject is largely optional at the secondary school level since the subject is not a prerequisite when pupils advance from one academic level to another except for those who intend to study Ndebele further. At both the ordinary and advanced levels, (henceforth 'O' level and 'A' level respectively), mainly literature, grammar and creative writing are the major components of Ndebele as an examinable academic subject. The literature component in the Ndebele syllabi at the two levels includes Zulu novels, drama texts and poetry. Ndebele 'O' level textbook series such as *Ihawu Labafundi* (Ndebele 1984; 1984a) include the grammar component, but it needs to be pointed out that the former tends to be a wholesale reproduction of *Uhlelo LwesiZulu* by Sibusiso Nyembezi (1982). As for 'A' level, no Ndebele textbook of grammar is available. Nyembezi's Zulu text and *Izikhali Zabafundi Nabaqeqeshi* (Nkosi and Msomi 1992) are used as the main texts. On this basis, Hadebe (2006) observes that the teaching of Ndebele in Zimbabwe has been nothing more than the teaching of Zulu. While Ndebele is principally the medium of instruction, candidates are, however, allowed to use English in 'A' level Paper 2. This paper is constituted by practical criticism and appreciation of prose, drama and poetry as well as questions on Ndebele grammar. With terminology problems, some teachers tend to mix Ndebele and English when teaching, yet students are expected to use one language when writing. This poses problems of inconsistency.

Similarly, inconsistent approaches to the study of Ndebele may be noted at the tertiary level. Ndebele is studied at this level as part of diplomas in education for student teachers or university degrees. Ndebele grammar, literature and culture are the basic components of the programmes. Yet again, Zulu influence is strong in literary and linguistic studies. It should be noted that there are no language stipulations in terms of medium of instruction.

Teachers' colleges tend to prefer Ndebele as the medium of instruction while universities have independent, if any, policies. For instance, at the University of Zimbabwe, a course can be studied in either English or Ndebele, depending on the lecturer's preference. This may be considered unfortunate since most graduates become Ndebele teachers at schools where they are supposed to use Ndebele as the main medium. During the 2005 parliamentary debates which led to the 2006 amendment of the Education Act, reference was also made to the total ban of the use of English in any Ndebele and Shona courses at schools. While this would present an opportunity for the development of the language as an academic subject and a medium of instruction, it would present challenges not only to the learners, but to the teachers as well. It should therefore be pointed out that the country's language-in-education policy, as highlighted previously, does not permit the development of the language in terms of terminology growth, grammatical description and use as an effective medium of instruction. This perpetuates the scarcity of textbooks and other teaching material. The NLLTD may go a long way in addressing this problem. At the same time, its production would definitely suffer since there are no standardised terms for linguistic and literary studies (see 5.2.2).

The English bias in Zimbabwe's language-in-education policy is also reflected in the country's language provisions for the legal fraternity. The Zimbabwean constitution states that an arrested or detained person shall be given his/her charge or reason for arrest or detention "in a language that he/she understands" [Articles 13 and 18(3) (b)] and "shall be permitted to have without payment the assistance of an interpreter if he/she cannot understand the language used at the trial, that is English" [Article 18(3) (f)]. In order to be appointed into the tribunal or as a judge, one must have trained, for at least seven years and practiced, "in a country in which common law is Roman-Dutch or English and *where* English is the official language" [Articles 82, 87]. From these pieces of Zimbabwe's legislature, English alone is clearly the language of law and hence, the country's official language. Indigenous languages are only used for convenience.

The same applies to language use in Zimbabwe's media industry, both the electronic and the printed media. Two national radio stations namely Spot FM and Power FM out of a

total of four broadcast exclusively in English. Radio Zimbabwe broadcasts in Ndebele and Shona while National FM broadcasts in all indigenous languages. English also dominates the only Zimbabwean television channel, ZTV. Ndebele (and supposedly Shona) is used to present a fifteen minutes news bulletin (mere and poor translations from the English bulletin) per day and not more than three local dramas per week. There are of course one or two talkshows in which either Ndebele or Shona can be optionally used although the latter tends to be dominating partly due to a superior number of native speakers. In the case of the printed media, only two weekly newspapers, *UMthunywa* (The Messenger) and *Ilanga* (The Sun) have been available since 2003, albeit in an inconsistent supply. The former, which is published in Bulawayo, attempts a total coverage of all Ndebele speaking areas while the latter, being published in Gwanda, focuses on Matabeleland South. From this presentation, the percentage use of Ndebele in media cannot be more than 5% of the total use of Zimbabwean languages in the media.

It may be noted from the foregoing that Ndebele plays a very marginal role in Zimbabwe's public sector. While the status of English as an international language cannot be questioned, what becomes a concern is the marginalisation of indigenous languages from education and other official sectors of life. It denies the languages the opportunities to develop systematically, in line with developments in other subject fields such as science and technology. Vocabulary and terminology develop in an *ad hoc* manner while orthographies continue to be unstandardised. Dictionaries, grammars and other teaching materials for indigenous languages are not prioritised. This would probably be different if a clear national language policy was available since its implementation would imply developing the languages to equip them for the given social roles. From the view of LSP lexicography, this is unfortunate because firstly, it presents uncertainty as to whether LSP dictionaries will be used as communication tools. Secondly, while it is clear that LSP dictionaries can address some of the problems and equip the languages and make them ready for use in academic, formal and specialised domains, it implies that the production of the dictionaries would be fraught with a lot of challenges. The thesis will highlight some of the challenges. However, it will also shed

some light on the state of Ndebele lexicography and its history in order to create a model that takes into account previous challenges, failures and achievements.

1.2 The History of Lexicography in Ndebele

Ndebele lexicography can be historically divided into two broad periods, namely the pre-ALLEX and the ALLEX. ALLEX is an acronym for the African Languages Lexical Project which ran from 1992 until 2006 at the University of Zimbabwe. ALLEX was a partnership project between the University of Zimbabwe and the University of Oslo. The former did the work on the ground while the latter provided financial and expertise support in the development of Zimbabwe's indigenous languages mainly through dictionary making. The activities were mainly concentrated on Shona and Ndebele as the country's major indigenous languages.

While its activities and products are more well-known compared to those of an earlier period, ALLEX did not necessarily mark the beginning of Ndebele lexicography. Hartmann (1990: 100) puts the number of Ndebele dictionaries at five before ALLEX. However, he does not list them. A more informative inventory of pre-ALLEX Ndebele dictionaries and dictionary projects is made by Hadebe (2006). He traces the history of Ndebele lexicography back to the 19th century when Elliot (1897) published *Dictionary of the Tebele and Shona Language*. 1903 then saw the publication of Weale's (1903) *Matebele and Malaka Vocabulary: Intended for the use of the Prospectors and Farmers in Mashonaland*, which is believed to have been compiled around 1854 (Hadebe 2006). After that, Elliot (1910) produced *Notes for a SiNdebele Dictionary and Grammar*. This was followed by Pelling's (1966) *A Practical Ndebele Dictionary*, henceforth the PND, which is still in circulation. Besides these dictionaries, which are one less than Hartmann's (1990) number, Hadebe (2006) also cites two unpublished dictionary manuscripts by two former University of Zimbabwe Ndebele researchers, Stephen Mhlabi and Galen Sibanda. Thus, it may be argued that ALLEX marked the beginning of new lexicographic trends and foci of much more profound impacts on the development of the language and dictionary culture in it.

With the exception of Mhlabi's and Sibanda's unsuccessful attempts, pre-ALLEX dictionaries were compiled by non-Ndebele speakers during the colonial period. The dictionaries were also interlingual, with English being one of the language sets. From a lexicographic point of view, this may be considered as trivial. The main issue is that Ndebele speakers were generally not considered as target users of the dictionaries. Only a few Ndebele speakers who had learnt or who were learning English could benefit from the dictionaries. For example, since Ndebele native speakers were neither prospectors nor farmers in 1903, they were clearly alienated from Weale's dictionary whose title identifies prospectors and farmers as the intended users. Any Ndebele who could use the dictionaries would do so in order to learn English and get one of the few better jobs on the farms, mines and in the administrative sector. Thus while pre-ALLEX Ndebele lexicography cannot be ignored, it mainly intended to satisfy foreign language reception and production either in English or Ndebele. Gouws (personal discussion) makes a distinction in this regard between externally-motivated and internally-motivated lexicographic products. The former refers to lexicographic products produced to satisfy the needs experienced in a linguistic community by external members in their socio-economic, religious and political dealings with the locals. The latter refers to lexicographic products produced in order to satisfy the needs experienced by members of a particular linguistic community in their intra- or inter-community activities. Most dictionaries produced in African languages during the colonial period belong to the category of externally-motivated lexicographic products. This certainly applies to the Ndebele dictionaries mentioned above, with the exception of Pelling which continues to be used today. This way, pre-ALLEX Ndebele lexicography did little to develop a dictionary culture and mother-tongue confidence in Ndebele.

ALLEX's landmark contribution to Ndebele lexicography was the production of the first ever monolingual dictionary, Hadebe et al.'s (2001) *Isichazamazwi SesiNdebele* (henceforth the ISN). It presented Ndebele speakers, particularly students at secondary and tertiary levels of education, with a general reference source from which information on spelling, grammar, meaning, language usage, language variation and information on some aspects of culture can be retrieved. As Hadebe (2006) notes, it contributed

immensely to the standardisation of the Ndebele language. From a lexicographic point of view, more research is needed to establish the functions which the ISN can serve by virtue of the provided data types, the limitations of the dictionary in fulfilling some of the functions and possible innovations which may result in the compilation of more user-friendly dictionaries in the future. This will not be done in this study, but reference will be made to some aspects which are equally relevant for LSP dictionaries.

Following the publication of the ISN, the ALLEX Project also facilitated the production of a Ndebele dictionary of music terms entitled *Isichazamazwi SezoMculo*, (henceforth the ISM), co-edited by Nkomo and Moyo (2006). The ISM was meant to facilitate the use of Ndebele in music education and music production. That way, it is an LSP dictionary. As noted in the preceding paragraph regarding the ISN, a systematic evaluation of the ISM would be useful in the production of future dictionaries, particularly LSP dictionaries. Unfortunately, it should be conceded that since the present author is one of the the co-editors of this dictionary, more of his experience in the compilation of the ISM would be used rather than its criticism. However, it will still be noted that a retrospective critical and objective view of the production of the ISM is attempted by reconciling both theory and practice. That way, it would be noted that the ISM would have been more user-friendly had it been conceived within the model which is formulated in this study.

In conclusion, it may be noted that the ALLEX Project resulted in a sudden and rapid growth of Ndebele lexicography by facilitating the publication of two dictionaries within a space of five years. This may be seen as a great achievement considering that Ndebele has been used as an 'officially recognised national' language for almost a century without a monolingual dictionary or even a bilingual dictionary which is intended for use by native Ndebele speakers. However, from a lexicographic point of view, it is important to go beyond such a quantitative evaluation and investigate the appropriateness of the dictionaries in view of their lexicographic functions and the success with which the functions are fulfilled. That way, the history of Ndebele lexicography becomes an

important source of experience and relevant insights which may inform future lexicographic practice and research in Ndebele. As noted previously, this study will focus on LSP lexicography.

1.3 The Problem Area

Recent lexicographic achievements in Zimbabwe have been associated with the possible status elevation of the country's indigenous languages (Chimhundu 2005). However, the production of dictionaries in Ndebele and Shona has thus far not led to their status elevation. Neither can it be ascertained that these languages will be elevated immediately due to the recent lexicographic achievements. From a metalexicographic point of view, dictionaries should be produced not only in view of the promotion of the concerned languages, but in order to satisfy the lexicographic needs of the language speakers. Thus, emphasis should be put on the appropriateness and quality of the lexicographic products. Should dictionaries be produced that meet specific criteria of measuring appropriateness and quality, then the real lexicographic needs of the community would be addressed. Status elevation of the respective languages may also occur.

Dictionaries of high quality can also promote dictionary culture in several ways. The few users who consult the dictionaries may acquire the relevant reference skills and use the dictionaries more efficiently. That way, they may then acknowledge the value of dictionaries and encourage other language speakers to refer to dictionaries in order to solve similar problems. Users who rely on dictionaries for information may also contribute to lexicography by giving informed feedback to practicing lexicographers concerning the quality of dictionaries. At present, the lexicographic situation in Ndebele and Zimbabwe in general is not optimistic in this regard. Probably, the point of departure in promoting dictionary culture in a community with few dictionaries would be producing appropriate and good quality dictionaries. Therefore, this study attempts to answer the following broad question: *What theoretical considerations need to be taken into account in order to produce useful and user-friendly LSP dictionaries in Ndebele?* Although language specificities are critical in this study, some of the issues that will be discussed would notably not apply only to Ndebele but also to other languages which are

in similar situations. More so, some of the issues would apply to other dictionary types such as learner's dictionaries.

1.4 Objectives

In view of the broad question regarding the problem area, the specific objectives are:

1. To highlight and address possible challenges for lemma selection in Ndebele LSP dictionaries.
2. To highlight and address possible challenges related to provision of data categories for macrostructural items in Ndebele LSP dictionaries.
3. To raise some considerations regarding the structural designs for Ndebele LSP dictionaries.

1.5 Scope of the Study

As an academic field of study, lexicography is constituted by a wide range of issues and topics. Wiegand's (1984) metalexigraphy has four major areas, of which the theory of lexicography alone also has four areas which are equally broad (see 3.1). Hartmann (2001) identifies five major perspectives of dictionary research, namely the historical perspective, the critical perspective, the structural perspective, the typological perspective and the user perspective. Similarly, each perspective consists of various issues which may be a complete subject of research in a particular lexicographic community. It should be noted that there is a lot of interaction among the issues constituting the various components of the four main areas of research in Wiegand's metalexigraphy (see 3.1 again). Hartmann (2001) also notes that none of his five perspectives of dictionary research can be researched independently of each other. This is a fact that will be clearly reflected by this thesis whose scope revolves around the following:

- Dictionary history since the study is concerned with lexicographic practice in a particular community.
- Dictionary typology in the sense that the thesis discusses issues related to the planning and compilation of dictionaries of a particular type.

- Dictionary structure since the contents of LSP dictionaries and their arrangement are considered.
- The user perspective since the reference needs and the reference skills of the target users are given prime importance in discussing issues such as typology and dictionary structure.

While the above are at the core of this study, their interaction determines the depth with which each of them may be treated. Dictionary typology will get scant attention, as the focus is on a particular type of dictionary. As noted earlier on, focus will be on the LSP dictionary type. Even when it comes to dictionary structures, they will be discussed mainly in view of LSP dictionaries. However, this does not mean that insights will not be drawn from the structural features of other dictionaries. The results of lexicographic research directed by the structural perspective indicate that there are various types of dictionary structures with different functions. This thesis will focus mainly on the macrostructure, the microstructure, the frame structure and the mediostructure. The other types of structures will also be highlighted whenever they interact with those that are under special discussion in the study.

1.6 Justification

The significant role of metalexigraphic research in lexicography needs no emphasis here. It is now generally expected that the compilation of any dictionary should be preceded by research. Probably what requires justification is the focus of the study and its approach. This may clarify the envisaged contribution of the study regarding its specific focus in view of a particular lexicographic community or lexicography in general.

This study is undertaken in special view of the importance of dictionaries in the information and globalisation age (Gouws and Prinsloo 2005: 1, Tarp 2007). Various types of dictionaries are needed to meet the requirements of communication and cognitive development across the globe. For instance, bilingual lexicography is important in facilitating communication across linguistic and cultural barriers (Yong and Peng 2007). LSP lexicography has been given special focus in this study because it deals with

dictionaries which are produced to address both communication and cognitive problems in specific subject fields. Fundamental improvements in the whole process of specialised communication are dependent on improvements in LSP lexicography (McNaught 1982: 173). The rapid growth of knowledge in various subject fields requires reference tools which can facilitate communication and enhance expertise development. The Ndebele linguistic community, just like many other developing communities, especially in Africa, needs LSP dictionaries in order to acquire and transmit specialised knowledge which is often developed in other parts of the world. LSP dictionaries may address the problems which affect communication and keep the Ndebele community abreast with the developments in various specialised subject areas. Therefore, a study which focuses on LSP lexicography is relevant in Ndebele, although the same remains true for other types of dictionaries. Research is necessary to identify the subject fields in which LSP dictionaries are urgently needed in order to address issues of lemmatising and explication languages as well as the provision and presentation of data categories.

The fields of science and technology are currently characterised by rapid developments never noted before. However, developments in science and technology affect all the other subject fields including the arts and the humanities. Therefore, LSP dictionaries are needed in the Ndebele community to improve communication, learning and practice in all these fields. Given this, it may be asked: Then why the special reference to a Ndebele dictionary of linguistic and literary terms? This question will be addressed in the remainder of this section.

Ndebele speakers can use English LSP dictionaries which are currently available for various subject fields since English is the official language. English LSP dictionaries remain appropriate as long as English remains the medium used in the teaching and practical activities constituting the concerned fields. Unfortunately, the major limitation of the available English LSP dictionaries in the Ndebele community or in Zimbabwe generally is the fact that they are not designed in view of Zimbabweans as second language speakers of English. Only experts can use those dictionaries by virtue of having acquired certain levels of encyclopaedic knowledge in the respective fields, which they

also did through the English medium. However, their success in using those dictionaries would not be the same as that of native language English speaking experts in the same fields, although the fact that they are experts implies that they have attained the required linguistic and LSP competence since they trained in English. Semi-experts and lay people are more disadvantaged because their low LSP competence is compounded by being non-experts and second language speakers of English or being totally incompetent in English in the case of lay people. On the other hand, Ndebele LSP dictionaries may be useful to experts, semi-experts and lay people. However, it would be less productive to focus on LSP dictionaries in scientific fields in which the use of Ndebele is currently viewed as impossible. Besides this, the production of dictionaries for such subject fields is likely to face more challenges because of undeveloped LSPs.

Given the foregoing, it is firstly important to produce Ndebele LSP dictionaries for those subject fields where maximum use of the language is a realistic possibility in the foreseeable future. If the role of Ndebele in education, for instance, has to be improved, then the point of departure should be teaching its linguistics and literature in its medium. Prospects of such a reality in Zimbabwe are currently strong. In fact, policy statements to that effect have been made, but implementation has been unimaginable due to lack of reference books. The production of the prospective NLLTD would definitely be a welcome development towards implementation. Besides this, the dictionary would be the easiest to produce in Ndebele considering that the currently available Ndebele lexicographers have strong linguistic and literature backgrounds. Thus, they are subject field experts and lexicographers at the same time.

In the same vein, for the present writer, the prospective NLLTD becomes the most convenient reference where high levels of precision can be achieved in discussing lexicographic, linguistic and special subject field issues by virtue of being a native language speaker and a student of lexicography, Ndebele linguistics and literature. For the envisaged general model, generalising from a case in which maximum understanding can be achieved yields better results than the one in which enquiries have to begin at elementary levels. The general knowledge about other subject fields can be applied in this

study in view of what is most understood. This is important considering that this study is conducted within a stipulated time limit. The requirement of special subject knowledge in discussing some aspects of LSP lexicography would be more daunting for this researcher if a medical terms dictionary, for instance, was made the case study.

This thesis is written at a time when practical LSP lexicography has already been started in Ndebele and generally in Zimbabwe. ALRI has produced four LSP dictionaries: three for Shona and one for Ndebele. Although the dictionaries were produced in clear view of a common mission statement: *To research and document the Zimbabwean languages in order to expand their use in all spheres of life*, the real theoretical basis on which those dictionaries were compiled has never been clearly explained or even interrogated. Consequently, while the lexicographers spent a lot of time and grappled with numerous challenges, it may be noted that the products of their sweat do not enjoy the recognition they deserve in society. The lexicographers still have to convince the society that the dictionaries have been produced to address some of the problems they encounter in their interaction with special knowledge in various subject areas on a regular basis. This study, the first one of its kind in Ndebele and Zimbabwean lexicography in general, intends to contribute to LSP lexicography in society by highlighting theoretical ideas which may facilitate the production of appropriate, useful and user-friendly LSP dictionaries in Ndebele. As noted earlier on, its application cannot be limited to Ndebele, but special reference will be given to a Ndebele dictionary on which the present writer can argue with maximum precision as a native language speaker.

1.7 Literature Review

In his book, *Modern Lexicography*, Béjoint (2000: 1), observes that the period from 1970 onwards exhibits an unequalled upsurge in the production of literature about dictionaries than any period ever before. The turning point was the publication of *Problems in Lexicography*, edited by Householder and Sarpota (1967), following the 1966 Indiana Conference which was the first one to be specifically convened for lexicography. This was followed by the publication of *A Manual of Lexicography* (Zgusta 1971), which was motivated by the need “to discuss problems of lexicography” (Zgusta (1971: 9). Gouws

and Prinsloo (2005: 1-2) argue that the manual is “by far the most important and the first major publication to establish theoretical lexicography as a research field”. While there has been a major theoretical shift in the view of lexicography, these earliest publications remain vital in that they stimulated the development of lexicography to its present status. For example, Malkiel’s (1967) classification of dictionaries using distinctive features in Householder and Sarpota (eds.) (1967) and that of Zgusta (1971), though not perfect (Yong and Peng 2007), provide the traditional foundations of dictionary typology which are still relevant today (Gouws 2001, Gouws and Prinsloo 2005). Dictionary typology is also a relevant issue in this study which attempts a model for a particular type of dictionary. However, this study approaches dictionary typology also in light of recent metalexicographical developments.

It would be too ambitious and also impossible for this study to account for all metalexicographical works that have been produced up to date. An attempt will be made to focus on those that deal with LSP lexicography. Unfortunately, such works are very few. However, it is important to note other works, which deal with general lexicographic issues that are likely to have long lasting impression in lexicographic practice. These include Al-Kasimi (1977), Bejoint (2000), Gouws (1989), Gouws and Prinsloo (2005), Hartmann (1983), Hartmann (1984), Hartmann (2001), Hartmann and James (1998), Hausmann et al. (eds.) (1989-1991), Landau (2001) and Yong and Peng (2007). These works include individually authored books, edited books and reference works (a dictionary and a three-volume encyclopedia). They are not specifically devoted to LSP lexicography, but deal with a wide range of lexicographic issues. Some of the issues are equally relevant for LSP lexicography. For specific issues, some of the works will be revisited in this section while others will be used in the appropriate parts of the thesis.

The only available comprehensive publication on LSP lexicography, at least in the English language and accessible to the present writer, is *A Manual for Specialised Lexicography* edited by Bergenholtz and Tarp (1995). In this book several authors grapple with theoretical and practical issues in LSP lexicography. The production and evaluation of LSP dictionaries is approached from a functionalist perspective whereby

every decision is guided by the notion of lexicographic functions (see Chapter Three). The approach covers all the stages of dictionary compilation and ensures that the final product satisfies the needs of the users which the lexicographers set to address by compiling a dictionary. The relevance of the theory of lexicographic functions to LSP lexicography is elaborated and emphasised by Tarp (2000; 2005). However, Tarp (2002; 2004; 2004a) and Bergeholtz and Tarp (2003) indicate that the theory does not have a limited application to LSP lexicography, but rather a general applicability in the production of high quality dictionaries. Tarp (2004; 2004a) applies the same theory to learner's lexicography. It would not be wrong to argue that modern lexicography is generally function-driven, although a claim cannot be made that all modern dictionaries fulfill those functions which they purportedly serve. An attempt to formulate a model for LSP lexicography in Ndebele is motivated by the need for high quality LSP dictionaries. Therefore, *A Manual of Specialised Lexicography* edited by Bergeholtz and Tarp (1995) is not only relevant to this study due to its focus on LSP lexicography, but also because of its theoretical orientation. Accordingly, the study will also make close reference to the other works produced by the co-editors of the manual and other scholars who contributed in it.

Herbert Ernst Wiegand is probably one of the finest metalexigraphers the world will ever produce. His most significant contribution to lexicography rests in his tireless efforts to develop a general theory of lexicography, the significant outcome of which was the conclusion that a dictionary is a *utility product* with a *genuine purpose*. A clearly systematic development of Wiegand's metalexigrapher can be noted in Smit (1996; 1998; 2001; 2004) where most of Wiegand's publications which are in German are taken into account. In this study, direct reference will be made to Wiegand (1984; 1996; 1996a; 2004).

Wiegand (1984) affirms the status of lexicography both as practice and theory. He refutes the idea of lexicography being a branch of linguistics or lexicology, arguing that lexicography is theoretically neither motivated nor informed by those fields individually. He (Wiegand 1984) regards lexicography as a scientific practice aimed at the production

of reference works on language, with a metafield which is now generally known as dictionary research or *metalexigraphy*. He demonstrates that metalexigraphy is a scientific research which can be divided into research on dictionary use, research on dictionary criticism, research on history of lexicography and a general theory of lexicography. One of the four constituents of the general theory of lexicography puts emphasis on dictionary structures as important elements of a dictionary. In this respect, Wiegand (1996; 1996a; 2004) among other works, focuses on dictionary structures. He even collaborated with other metalexigraphers to develop various aspects of dictionary structures as in Hausmann and Wiegand (1989-1991) and Bergenholtz, Tarp and Wiegand (1999). Dictionary users are also an important element of Wiegand's general theory. His view of a dictionary as a *utility product* with a *genuine purpose* inspires the works of many other metalexigraphers, including those who do not agree with him entirely. Consequently, this study unavoidably draws a lot from Wiegand's (1984) general theory of lexicography to place prospective Ndebele LSP dictionaries in the lexicographic scene and other aspects of lexicographic planning and research. The functionalist approach will then be emphasised in a complementary manner as it is an acknowledged fact that Wiegand's theoretical notion of the *genuine purpose* is fundamental in the theory of lexicographic functions (Bergenholtz and Tarp 2003).

Another metalexigrapher whose works inform this study is Reinhard Hartmann. One of Hartmann's notable contributions is his emphasis on what is now generally known as the *user perspective*. Hartmann (1989) develops a hypothesis that the user should be considered in all practical lexicographic activities, focusing on the user's reference needs and reference skills. Of course, the inspiration by Wiegand's identification of dictionary use as an important research field of lexicography is duly acknowledged. The user perspective is given due attention in Hartmann (2001), where other perspectives of dictionary research such as the historical perspective, the critical perspectives and dictionary structure are also discussed. The disciplinary status of lexicography is also explored in this book, and the author reiterates the need for a theoretical guidance in practical lexicography. While he agrees on this with many modern lexicographers, Hartmann recognises the central role of linguistics and lexicology in lexicography and

goes further to reiterate as a necessity that lexicographers should have some training in lexicology. This idea is, however, challenged by Tarp (2000; 2002; 2004a) who argues that training in linguistics or lexicology is not a prerequisite because not only linguistic or lexicological theories influence lexicography. In a more recent journal article, Hartmann (2005), further illustrates the interdisciplinary nature of lexicography and encourages lexicographers to work with scholars from the so-called mother-, sister- and data supplying disciplines in order to improve the quality of dictionaries. This point, in addition to others on the user perspective, dictionary criticism and other perspectives of dictionary research, is of particular importance to LSP lexicography where lexicographers handle language used to convey specialised knowledge. It is only through collaboration with experts and the consideration of user needs and reference skills that LSP dictionaries of high quality can be produced.

Rufus Gouws is another scholar who has made very remarkable contributions to lexicography as an academic field. His publications dealing with different dictionary types (Gouws 1996; 2004a; 2006), dictionary structures (Gouws 1991; 2002; 2004a; 2007) and lexicographic planning (Gouws 2001; 2006) are all relevant in this study. In all the works, the importance of the theory of lexicography in practical lexicography is consistently underscored. This is apparently clear in Gouws (2001), where lexicographic training is identified as the key towards the production of dictionaries of high quality. Gouws (2006) contends that planning is an important element of good lexicographic practice regardless of dictionary types and sizes. Yet, Gouws (2007) proposes that dictionary typology should be approached from a functionalist perspective, as it should be the case with all lexicographic procedures and decisions. All these ideas become apparent in a book authored with Danie Prinsloo (Gouws and Prinsloo 2005) in which the interaction between theory and practice is investigated and strongly recommended for South African lexicography. None of Gouws' works mentioned here deal with LSP lexicography and neither do Gouws and Prinsloo (2005) deal with it in detail, but all these works are extremely relevant from a metalexigraphic perspective. Consequently, Gouws becomes one scholar whose academic inspiration cannot be overemphasised in this study.

There are, however, several publications in the form of journal articles, book chapters and referred conference papers which discuss general aspects of LSP lexicography which also inform this study to varying degrees. These include McNaught (1982), Sager (1984), Carstens (1997), Smit (1998) and Mihindou (2004). McNaught emphasises the role of LSP dictionaries in a community. This has been identified as one of the motivations behind this study in the previous section. However, this study goes further to reiterate that for LSP dictionaries to assume such an important role, they need to be well-conceived and user-friendly. That way, it has a lot in common with the works of Carstens (1997) and Smit (1998). Carstens (1997) discusses issues that arose in the planning of a multilingual dictionary of Chemistry for South African students. Smit (1998), extracted from her DLitt. dissertation (Smit (1996)), illustrates how Wiegand's metalexigraphy (see 3.1) may be used to establish the purpose, functions and nature of a multilingual dictionary of music for South Africa. It will emerge that the issues discussed by these scholars are also discussed in the present study; the main difference being that the current study does not restrict the discussion to the planning of only one dictionary, however. It should be emphasised that the cited studies are relevant as far as theoretical applications to LSP lexicography are concerned, with Sager (1984) indicating the contribution of terminological activities and theories in LSP lexicography and Mihindou (2004) discussing basic distinctions between LSP lexicography and general-purpose lexicography. The works of these scholars contribute to this study through insights which stimulate more ideas regarding the issues which are central to this thesis.

As mentioned previously, it is notable that at an international level, metalexigraphic literature is now abundantly available such that it cannot be adequately accounted for in one work, let alone a Master of Philosophy thesis. However, this is not the case in Ndebele or Zimbabwe where even practical lexicography has not firmly established itself as a professional enterprise. There is very little literature on Ndebele or Zimbabwean lexicography in general. The earliest works were produced following the advent of the ALLEX Project in the form of theses by students who were encouraged to research on lexicographic issues which had serious implications for the compilation of general monolingual dictionaries. Maphosa (1997) was the first Honours thesis on Ndebele

lexicography and focused on the implications of the structure of the Ndebele noun for lemmatisation. The second Honours thesis, Moyo (1998), investigated the viability of the frequency criterion for lemma selection for the then prospective ISN. In the same year, the first Masters thesis (Ndhlovu 1998) was also produced and it considered the COBUILD defining formats for the Ndebele dictionary. The following year, the second Masters thesis (Maphosa 1999) was produced, investigating the implications of the structure of the Ndebele verb for lemma selection in Ndebele. These theses constituted the only literature on Ndebele lexicography that was available before the publication of the ISN. While the theses grappled with the issues that were relevant in the production of the ISN and, in that way, informed its production, it should be noted that the students were taught and supervised by the editors of the dictionary. It may be argued that while the production of the ISN was informed by rigorous lexicographic research, the available literature did not provide the editors with a broad spectrum of diverse lexicographic choices. However, the impact of the supervision of thesis writing by the dictionary editors could have been worse after the publication of the dictionary when its user-friendliness was evaluated. Little objective criticism may be expected in such instances.

The most comprehensive work on Ndebele lexicography at the moment is Hadebe (2006), a book which resulted from the author's doctoral dissertation (Hadebe 2002). This thesis refers to the book instead of the original dissertation because the book is easily accessible. Hadebe (2006) investigates the contribution of the compilation of the dictionary towards the standardisation of the Ndebele language. He concludes that indeed the dictionary making process significantly contributed in that respect, particularly regarding aspects of Ndebele orthography, morphology, vocabulary and terminology (Hadebe 2006: 195-196). All these aspects should be considered in Ndebele LSP lexicography, particularly when dealing with neologisms. Besides this, Hadebe (2006) also provides a very comprehensive literary and lexicographic history of the Ndebele language, part of which has been used in 1.1 and 1.2. A comprehensive account of the lexicographic challenges encountered in the compilation of the ISN and the strategies used to overcome the challenges are useful here as they highlight what should be expected in the compilation of future dictionaries, including LSP dictionaries. In this

regard, Hadebe's (2006) book is thus far the most thorough and comprehensive work on Ndebele lexicography in general which should be considered in all future practical and theoretical lexicographic activities.

However, there are also several journal articles that are now available on Ndebele lexicography written by either the editors of the dictionaries or those members who joined the ALLEX Project after the publication of the ISN. What is generally notable about this literature is that it either demonstrates the user-friendliness of the ISN or justifies the lexicographic procedures that were adopted. The exception is in Nkomo (2007) where the limitations of the mediostucture of the ISN are clearly pointed out. This trend is not peculiar to the Ndebele situation, but is generally expected where lexicographers write about their own works. Neither is it peculiar to lexicography, because literary critics who are also creative writers write well about their products. The underlying point here is that Ndebele metalexicographic literature has generally not identified the limitations of Ndebele dictionaries. This is common in communities where dictionary culture is young and metalexicography is produced by the lexicographers themselves.

In view of the foregoing, it suffices to conclude that LSP lexicography is generally under-researched compared to general-purpose lexicography or learner's lexicography. However, from the international lexicographic scene, this study draws very important lexicographic ideas which apply to LSP lexicography although some of them have been formulated in view of other types of dictionaries. As far as Ndebele or Zimbabwean lexicography is concerned, the focus has been on the general monolingual dictionaries. Although four LSP dictionaries have been compiled, only three journal articles have so far been published mainly focusing on two of the dictionaries. Nkomo (2005; 2008) and Mpofu and Mangoya (2005) offer accounts of the compilation of the ISM and the DUU respectively. Emphasis is on the challenges that the lexicographers faced at various stages of the compilation of the two dictionaries as well as the strategies they employed to address the challenges. Nkomo (2008) also explores the contributions of LSP lexicography in African societies in the context of rapid developments in science and

technology. What is missing is a serious engagement of the compilation activities with the theory of lexicography, taking into cognisance the recent metalexigraphic developments. The overall picture so far is that of great success of the ALLEX Project, without investigating the real impact of the reality of this success on developing dictionary culture in the Zimbabwean community. This work endeavours to fill in this yawning gap. Drawing from metalexigraphic literature available on the international scene and applying a functionalist approach, it envisages a model whose main motivation is to facilitate the production of appropriate, useful and user-friendly Ndebele LSP dictionaries, although it has been stated that the model may not necessarily only be applicable to Ndebele dictionaries.

1.8 Outline of the Thesis

Including this general introductory chapter and the general conclusion, this thesis is divided into eight chapters. The overview of the issues raised in this chapter will not be repeated here. Chapter Two is the methodology chapter. It describes the data for this study, research methods and techniques of collecting the data as well as the methods of analysis employed. Chapter Three provides the theoretical framework. It combines the general theory of lexicography (Wiegand 1984) and the theory of lexicographic functions developed by the Danish lexicographers, mainly Henning Begernholtz and Sven Tarp. It is within the theoretical framework that major theoretical elements of LSP are explored and related to practical challenges in the compilation of dictionaries, particularly in African language communities with low dictionary culture such as Ndebele. Chapter Four demonstrates a general application of the theoretical model formulated in Chapter Three.

The gist of this thesis is constituted by the discussions made in Chapter Five to Seven. Chapter Five discusses the issues that are relevant for consideration in the selection of lemmata for the NLLTD. Chapter Six then considers the data types for individual dictionary articles, bearing in mind the lexicographic functions, while Chapter Seven considers the distribution, layout and accessibility of various data types in the prospective dictionary. Chapter Eight is the conclusion of the thesis and summarises the issues raised

in the preceding chapters. More importantly, it highlights how the issues discussed in view of the NLLTD may be relevant in the production of other LSP dictionaries, thereby demonstrating the extent to which the thesis addressed the research question raised in 1.3.

CHAPTER TWO: METHODOLOGY

2.0 Introduction

This chapter outlines the methods that were used to collect, process and analyse data for this study. It begins by exploring the nature of the study in 2.1, noting that the nature of the study determines the types of data, the methods of gathering and interpreting it. Section 2.2 identifies and describes the sources of data, while section 2.3 describes how the data was collected from the respective sources. The methods of data collection used include the participant-observation method, questionnaires, a focus-group discussion and interviews. Data analysis is then described in section 2.4 where the case study and dictionary criticism are dealt with.

2.1 Nature of Study and Type of Data

Looking at its motivation, this study may at best be described as an action research. Wisker (2001: 156) generally associates action research with studies carried by lecturers with their students in order to improve teaching methods and students' learning environment in general. However, the same scholar's explanation of the general objective of action research makes it evident that action research may have a wider application than that. Wisker (2001: 159) stresses that:

The ultimate aim should be to improve practice in a systematic way, and if warranted, to suggest and make changes to the environment, context or conditions in which practice takes place.

The present research therefore qualifies to be regarded as action research. It seeks to improve lexicographic practice, particularly with regard to LSP lexicography in Ndebele. The study explores the Zimbabwean conditions within which LSP lexicography has been begun and attempts to provide suggestions which may result in the production of more user-friendly dictionaries. As suggested by Wisker (2001: 121), the present study interacts with the relevant subjects, mainly dictionaries, lexicographers and their users. The data types which are or may be contained in dictionaries become very important as well.

For the envisaged theoretical model for LSP lexicography in Ndebele, Ndebele lexical items in the fields of linguistics and literature are the major data elements for this study since they are lemma candidates in the NLLTD. These terms have been gathered to form representative samples subject to various forms of scrutiny which are relevant for lexicographic purposes. It would be noted that the terms are the very same data that the lexicographers who will compile the proposed dictionary will have to work with as lemma candidates. In formulating the envisaged theoretical model, the study therefore analyses the collected terms and the possible ways in which they may be treated and presented in the prospective NLLTD.

In addition to the terms, linguistic and extra-linguistic data on the terms is important. This data collectively constitutes the various data categories that the would-be compilers of the proposed dictionary should consider for inclusion in each dictionary article. Similarly, sources and means of gathering such data are considered. The study also makes probes on the inclusion and treatment of various data types at a microstructural level. The presentation options need to be cognisant of the lexicographic functions as well as the reference skills of specific users. In this regard, it has also been extremely important to research the users' expectations from the proposed NLLTD as well as their reference skills.

Collectively, the data for this study mainly ranges from terms as linguistic entities in special subject fields to dictionary articles constituted by the lemma and the various data categories as well as various user characteristics. These types of data are largely qualitative. Qualitative data types are those whose sense is largely derived through their description rather than statistical presentations like words, pictures, maps, gestures, events and so on. It should be noted that while they can be quantified in some contexts, their quantification in other contexts yields little and sometimes no sense. In the context of lexicography, Zgusta (1971: 231) notes that "more important and most useful than the quantitative aspect ... is the lexicographer's ability to exercise qualitative judgement". Therefore, while quantitative criteria such as frequency counts in corpora, number of informants or questionnaires, may be used in some lexicographic projects, they have to

be supplemented by lexicographers' intuition largely based on qualitative judgements. As long as the researcher works with systematic procedures or methods of identifying, assembling and observing them, making qualitative data subjects of research usually uncovers socially significant meanings. In this regard, it will be noted that there is very little statistical significance in all the methods used in this study.

2.2 Sources of Data

Various sources of data have been considered and used in this study. These include unpublished glossaries of Ndebele linguistic and literary terms, the Ndebele language corpus, published dictionaries, informants and secondary sources. These various sources are described in the following subsections, indicating the relevant data types provided by each source and how each source has been used in the course of the research.

2.2.1 Unpublished Glossaries

Ndebele linguistic and literary terms were collected from three tertiary institutions which teach both Ndebele grammar and literature mainly in the Ndebele medium. The institutions are Masvingo State University, Hillside Teachers' College and United College of Education. Each of the three institutions has a glossary used as a standard reference document in the respective department. This made the task of collecting terms relatively easy. Since these institutions are major producers of Ndebele secondary school teachers, it is likely that the terms in the glossaries are the ones that are used at schools. Going to schools especially to collect the terms for this study was, therefore, considered unnecessary given time-constraints. The three glossaries are considered as the main sources of terms that will be included in the prospective NLLTD. In that regard, it was considered extremely important to evaluate the terms and the way in which they are currently used in Ndebele linguistic and literary studies.

2.2.2 Published Dictionaries

Published dictionaries were also considered as necessary sources of data for this study. Zgusta (1971: 12) notes that "one of the main sources of information concerning the methods of lexicography is a careful study of the good dictionaries at present available".

Although this study does not undertake a systematic criticism of all the dictionaries to which reference is made, it will emerge that not all of those dictionaries are good. The dictionaries used in this study are only good to the extent that they help clarify some ideas raised herein for the production of dictionaries of better quality in the future.

Firstly, two Ndebele dictionaries, namely the ISN and the ISM were used as the predecessors of the prospective NLLTD and other specialised Ndebele dictionaries. Although the former is a general dictionary, besides lemmatising and defining terms from specialised subject fields, it is regarded as the major standard reference work presently available in the language. As a ground-breaking product of monolingual lexicography in Ndebele, the methods used in its production will inform many future dictionary projects of various types. On the other hand, the ISM is an LSP dictionary and the first one in the language. The methods used in its production and its structures are particularly relevant for future LSP dictionaries in the language. More so, the experience gained by the present researcher as the co-editor of the ISM provides this researcher with intimate knowledge of the challenges and the strategies that were involved and which may also affect the production of other dictionaries of the same type.

Secondly, Shona LSP dictionaries have been included in this study as sources of data. Three LSP dictionaries are already available and they include a dictionary of linguistic and literary terms, *Duramazwi reDudziromutauro neUvaranomwe* (DDU), co-edited by Chimhundu and Chabata (2006). The other two are *Duramazwi reUrapi neUtano* (DUU), a Shona dictionary of biomedical terms (Mpofu et al. 2004) and *Duramazwi remiMhanzi* (DRM), a Shona dictionary of music terms edited by Mheta (2005). All these dictionaries were produced by ALRI, just like the two Ndebele dictionaries referred to previously in this chapter. They were also produced in view of one common goal: the promotion of Shona as one of the indigenous languages of the country. There was heavy reliance on each other by the DRM and ISM editorial teams to the effect that the two dictionaries were mistakenly envisaged as versions of each other. In the same way, the DDU model is likely to shape the NLLTD, especially if it gets compiled under the auspices of ALRI or by former ALRI staff members. That way, it should be acknowledged that the

formulation of a model for LSP lexicography in Ndebele should not only be based on the currently available Ndebele dictionaries but should be cognisant of the objectives and procedures adopted by ALRI in general as far as LSP lexicography is concerned.

English LSP dictionaries have also been useful sources of data in the course of this study, particularly for the linguistic and literary subject fields. The use of English dictionaries as reference sources is likely to be unavoidable in Zimbabwean lexicography in the foreseeable future, considering the role of the English language in Zimbabwe and the contribution of English dictionaries to the growth of dictionary culture in the country. As noted previously in Chapter One, English is used concurrently as a medium of instruction in teaching Ndebele grammar and literature at the University of Zimbabwe. Therefore, English dictionaries of linguistic and literary terms which are being used at the tertiary institutions such as Crystal (1991) were consulted and they need to be considered in the compilation of the NLLTD. In a rewarding way, the compilation of the ISM relied heavily on English music terms dictionaries (Nkomo 2005; 2008a).

2.2.3 The Ndebele Language Corpus

The Ndebele language corpus was also considered as source of data for the proposed dictionary. The remitting uses of corpora in lexicography generally is emphasised by scholars such as Renouf (1987), Gouws and Prinsloo (2005) and for LSP lexicography in particular by Taljard and De Schryver (2002), Taljard (2004) and Taljard et al. (2007). Given the general advantages of corpora to lexicography, the Ndebele language corpus was built to support the compilation of the ISN. Hadebe (2002a; 2006) provides a comprehensive description of this corpus. Of particular relevance to this study is the fact that dissertations written in Ndebele from tertiary institutions were also included (Hadebe 2002a; 2006). Some of the dissertations are on Ndebele literature and grammar. Academic and technical language is generally used in dissertation writing and that way, they should also be considered as sources of specialised language. With this view in mind, the Ndebele language corpus was hoped to be the major source of Ndebele linguistic and literary terms, particularly their contextual use. Its limited use is described in 5.4.

2.2.4 Informants

Part of the data needed for this study was sought from selected informants. First were Ndebele lexicographers and linguists available at present who are the likely compilers of the dictionary in question and others of LSP nature. The other group, equally or perhaps more important is that of the prospective users of the NLLTD and other LSP dictionaries in Ndebele or African languages in general. According to Duvå and Lauser (1995: 78), the intended functions of the dictionary need to be compared with an analysis of potential user requirements which necessitates a user survey in lexicography. They further stress that choice of informants for a user survey should be made on the basis of a definition of the dictionary target user group. For the prospective NLLTD, the specific user groups are described in 4.2.

2.2.5 Secondary Sources

While the sources of data described so far form the backbone of this study, secondary sources provided the necessary theoretical orientations for data analysis and argument development. It should be noted that *secondary sources* is used in this instance as a special term in the research fraternity to refer to the available literature on a topic being researched. This is different from the lexicographic use of the term which refers to dictionaries and encyclopaedias used as part of a *dictionary basis* (Wiegand 1984: 16, Gouws 2001: 68, Gouws and Prinsloo 2005: 16). In that sense it would have applied to the discussion in 2.2.2. This lexicographic use of the term, together with that of its other counterparts, namely *primary sources* and *tertiary sources* was deliberately avoided here because it conflicts with the use of the term in social research. While this thesis is on lexicography, the discussion at this stage is concerned about the sources of data used in this study, which will not necessarily be used in the same way by the compilers of the dictionary. Therefore, the term is used to refer to the literature, part of which has been reviewed in 1.7 and used to formulate the theoretical framework of this study in Chapter Three.

2.3 Fieldwork: Data Collection Techniques and Ethics

The nature of data for this study and its sources identified above show that besides library research, fieldwork has to be a major component in this study. According to Haralambos and Holborn (1995: 813) fieldwork opens up greater possibilities than laboratory experiments. This also applies to library research and data analysis which is solely based on primary and secondary sources. Therefore, this section outlines fieldwork and data collection techniques through which the various data for this study was gathered. Also highlighted are the ethics followed in order to get maximum data from the identified sources. It is now widely accepted that research is a social activity. This is aptly summed up by Schratz and Walker (1995: 5) in the following word:

Once we admit that, as researchers, we hold values that affect the research that we do, we have to scrutinise our actions and our motives more closely. Who the researcher is can no longer be left out of the account without jeopardising the validity of the inquiry.

As such, after identifying the needed data and its possible sources, the researcher needs to go further and consider ethical ways of gathering the data.

The efficiency with which linguistic and literary terms were collected in the form of glossaries has already been highlighted in 2.2.1. It should be noted that the glossaries are up to now unpublished institutional documents used in the respective institutions. Upon confirming the existence of the glossaries, the researcher contacted by means of telephone the heads of the respective departments, made a self introduction, explained the research and then requested the glossaries for academic scrutiny. The cooperation of the institutions in a way confirmed the need of lexicographic intervention in developing technical language for use in teaching Ndebele grammar and literature. The researcher then made appointments with the heads of the three departments and followed up to borrow the glossaries which he photocopied, returned and retained the photocopies. The terms contained in the glossaries are analysed in Chapter Five. In the following subsections, the other methods of data collection are described.

2.3.1 Participant-Observation Method

Participant-observation refers to events recorded by the researcher when he/she involves him/herself and participants in the social phenomena that is being explored. According to Wisker (2001: 187), the method enables the researcher to capture what people do rather than what they say they do. The researcher also participates in the social phenomenon. The degrees of participation may vary from minimum participation where involvement is feared to disturb the natural phenomenon to extreme participation where close involvement is hoped to probe the subjects and provide more insights. Both positions have merits and demerits. The researcher also becomes the adjudicator of the subjects at the end; especially when he/she goes on to explain the observations using theories, inferences and introspection.

Prior to the present research, this researcher had engaged with the participant-observation technique for linguistic and dictionary research twice. Firstly, it was for Hadebe's doctoral research as a research assistant. The researcher sat in several court proceedings in order to observe the use of legal terms (Hadebe 2006: 23; 78-79). In this instance, mainly observation was done because participation in any way other than sitting in would disturb the proceedings. However, the method was adequate for the desired objectives. The present researcher also used the technique to evaluate the reference skills of the ISN users and the user-friendliness of the dictionary (Nkomo 2003). In this instance, users were asked to search for information from the dictionary and the search routes they took formed the basis in the evaluation of their reference skills and the user friendliness of the dictionary. Not only the researcher assigned tasks, but the other participants also did and the researcher also participated in searching for information.

For this study, participant-observation was undertaken at the University of Zimbabwe where the researcher attended Ndebele grammar and literature lectures in which the Ndebele medium was used. Permission was granted by the lecturers, Dr. S. Hadebe and Dr. T. M. Ndlovu. The motivation for employing the technique was to capture the communication experience of students and lecturers with Ndebele linguistic and literary terms in lectures and academic presentations. Since terms are mainly created to facilitate

communication in a specialised subject field, the main hypothesis as far as terminology is concerned is that the terms should be comfortably used in lectures, presentations, seminars, assignments and examinations. Popular terms were expected to be used more frequently, consistently and efficiently without estranging any of the parties in the communication process while unpopular terms would be less frequently used and when used, might cause communication breakdown. These assumptions are derived from the communication theory which informs the general theory of terminology to a large extent (Sager 1996). Students seemed never to have been bothered by the researcher's presence most probably because of two reasons. Firstly, first year students in the Department of African Languages and Literature were new when the observation began and they probably took the researcher for another first year student. Secondly, final year students knew the researcher as a member of staff who had taught a number of courses in their department on invitational basis. Since none of the subjects observed, except the lecturers, were aware of the research and its focus, lectures were considered as natural contexts within which the communicative dimension of Ndebele linguistic and literary terms could be observed.

A participant-observer is expected to be very observant and attentive as well. He/she should pay attention to detail. Neuman (2000: 362) reiterates this when he says the participant-observer "listens carefully to phrases, accents, and incorrect grammar, listening to both what is said and how it is said or what is implied". This is particularly important in the case of this study which employs this method in order to observe a communication process; checking what is communicated, how it is communicated and the effect of how it is communicated using technical language. Tape-recording the lectures would be prudent for memory sake, but it was noted that a big and powerful recorder was needed to capture all the communication in a large lecture room. In any case, recording would disturb the normal lecture environment within which the use of terms was to be observed. Recording was therefore restricted to note-taking which was also restricted to jotted notes which are short, brief and temporary memory triggers. Jotted notes mainly capture the topic of the lecture, arguments; terms used and their collocations. Direct observation notes, inference notes and personal notes are then written

immediately after the lectures. Some of the arguments in 5.2.2 about particular term-creation strategies resulted from the participant-observation technique.

2.3.2 Questionnaires

The use of questionnaires is not a new technique in lexicography as in many other forms of market or social research (Yong and Peng 2007: 17). Generally, questionnaires have the advantage of covering a large sample of informants within a reasonably short period of time. This gives some statistical significance to the results, allowing for quantitative analysis which cannot be totally avoided although the research is largely qualitative. More so, questionnaires can be completed in the absence of the researcher, an environment that may be conducive for thoughtful responses.

For this study, two questionnaires were used to solicit users' expectations from the NLLTD and generally their reference skills using mainly the data from the ISN and the ISM (see Appendices 1 and 2). Some of the questions were based on terms from the three glossaries as well as articles constructed by the present researcher. Only University of Zimbabwe students and a few staff members completed the questionnaires. It should be noted that the statistics have no significance in this study. Questionnaires were mainly used to get different views from different respondents within a short time. The University of Zimbabwe was chosen firstly, for convenience as the researcher have worked there for several years and secondly, because it is one institution which harbours the main targeted users of the NLLTD with a relatively high dictionary culture and reasonably better knowledge of Ndebele structure and literature. The university also teaches lexicography as a course such that the prospective users with a theoretical background of lexicography were likely to provide more insightful responses. Yet again, having passed through high school, the university students in general were expected to know what is needed at high school level from their previous experiences. Because the questionnaires were targeted at members of the society who cannot be regarded as lay people as far as lexicography is concerned, the questionnaires were rendered in English which has more established lexicographic terminology compared to Ndebele.

As far as research ethics are concerned, the questionnaires were designed in such a manner that the respondent is not obliged to state his or her real name. What has been found necessary and made compulsory is that the informants state their occupation and background as far as studies in Ndebele grammar, literature and lexicography is concerned. This information is likely to inform their needs and skills. Besides this, the information that the questionnaire solicited was unlikely to make social, political and religious offences on the informants. However, the information provided in the questionnaires was treated with great caution in the relevant parts of the thesis, bearing in mind that some respondents might have said what they thought they were expected to say instead of the truth. This is one of the most cited disadvantages of using questionnaires, especially those containing open-ended questions.

2.3.3 The Focus-Group Discussion

According to Litosseliti (2003: 1), a focus-group discussion is “a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment where participants share and respond to comments, ideas and perceptions”. Litosseliti (2003: 32) asserts that members of a focus-group should have common characteristics and similar levels of understanding a topic instead of simply aiming for diversity. The researcher becomes the moderator who guides, stimulates and facilitates the discussion.

After analysing the responses to the questionnaires, the present researcher identified contentious issues regarding the available Ndebele dictionaries and also about some Ndebele linguistic and literary terms. Issues relating to indigenous coinages versus loan words and term-creation strategies like transliteration could at best be discussed through interviews. Some students who had completed the questionnaires were invited for a group discussion which focused on the issues raised in the questionnaires. Since these are the most enlightened members of the society regarding the subject matter of this study, the discussion was made flexible in order to provide room for issues on which the researcher could have had an oversight. The focus-group discussion determined some of the arguments made in Chapters Five, Six and Seven.

2.4 Data Analysis

As noted earlier on, this study mainly works with qualitative data. It therefore follows that the main approaches to data analysis are qualitative. The major and ultimate thrust of this research, as noted previously, is to facilitate the production of high quality dictionaries and enhance their maximum utilisation. From the envisaged model, it should be clear what a dictionary of good quality should provide to the user and how. This can be achieved through analytical descriptions and demonstrations which constitute qualitative analysis. The case study method and dictionary criticism which combine facts presented by data and introspection are considered as the best methods of qualitative analysis for this study. Approaches to these methods of data analysis are discussed in the following two subsections.

2.4.1 The Case Study Method

According to Neuman (2000: 122) qualitative researchers speak the language of cases and context. This makes the case study method very prominent in qualitative research. A case study is defined as:

a method of studying elements of the social *phenomena* (my insertion) through comprehensive description and analysis of a single situation or case e.g. a detailed study of an individual, group. Emphasis is often on understanding the unity and whole of the particular case (O'Leary 2004: 128)

The case study method allows for an in-depth examination of a unit in order to comprehend and explain the generic. In the social sciences like law or business, one past experience also informs the future as well. A particular case provides clues, insights and hypotheses into the generally related problems. The greatest advantage of the case study method lies in its focus on the particular which allows for the collection of more detailed information and thorough understanding of the case which may be extended to other cases. However, it is again on the same note that the case study method has been heavily criticised; that some generalisation may not apply to the particular (Neuman 2000: 122). It is therefore imperative that in a case study, the researcher acquires a full and thorough knowledge of the particular to the extent of recognising it and other related cases in new

and foreign contexts. The context of the case used becomes crucial if the findings and conclusions based on that particular case have to be extended to related cases.

The title of this thesis clearly shows that this study is generally on LSP lexicography in Ndebele. However, particular focus on one prospective dictionary is seen as a means of enquiry that can yield results that can provide insights to LSP in general. Even the observations that will be made on LSP in Ndebele may also apply not only to Ndebele lexicography in general but also to lexicography as a field in general. Focusing on the NLLTD as a case study while in pursuit of a general model for LSP is done in a bid of working with manageable data whose in-depth understanding may facilitate general understanding as well. This is done in considerations of the specificities of various languages and subject fields for which LSP dictionaries may be compiled. What is crucial is that one undelines the common and unique aspects of various subject fields and languages and the implications of each of them for LSP lexicography. Section 1.6 of the thesis has in part explained the adoption of the case study method while 8.2 explains how the case may be used for other LSP dictionaries in the language.

2.4.2 Dictionary Criticism

Dictionary criticism is “the description and evaluation of a dictionary or other reference work, usually in comparison with others” (Hartmann 2001: 172). Properly done, dictionary criticism should be systematic if it is to be useful to the compiler and dictionary user. This should be seen as the principal objective of dictionary criticism. However, this study does not undertake a systematic criticism of the dictionaries to which it refers, as mentioned earlier on. Instead, it describes and evaluate particular dictionary aspects which are relevant to this study. For instance, the inclusion policies and treatment of entries in available dictionaries are compared and tested for user-friendliness before making recommendations on them being part of the envisaged model. Comparing similar aspects from different dictionaries and testing how they facilitate dictionary use in view of the principles of dictionary making is hoped to guide recommendation making for the constituents of the theoretical model.

Although the analysis made in this thesis is largely guided by metalexigraphic principles drawn from Chapter Three, room for introspection has been provided for a number of reasons. The researcher is a mother-tongue speaker of Ndebele, the major language of reference in this study. The researcher is thus able to make judgments on lexicographic problems of linguistic nature. Besides this, the researcher enjoys the experience of practice in Ndebele lexicography as co-editor of the ISM which became the first LSP dictionary in Ndebele. The basis for introspection in this study is that the present researcher has had the experience of both a producer and consumer in Ndebele lexicography.

2.5 Conclusion

The methodology outlined in this chapter constitutes activities in which this researcher engaged for the purpose of this study. It would be noted that it adopts methods from scientific and social research in general for dictionary research. Some of the methods have been established in lexicography yet others have been criticised for ineffectiveness. While questionnaire surveys have been criticised in favour of protocols, Duvå and Lausern (1995: 82) have demonstrated how time-consuming the protocol method is for a lexicographer. Thus, this researcher opted for research methods which could be carried out within a reasonable period for a Masters thesis. Therefore, the methodology outlined in this chapter is not necessarily the one recommended for the would-be compilers of the proposed NLLTD and other LSP dictionaries although it can provide guidance. The methodology for dictionary research is somewhat different from the one for dictionary making.

CHAPTER THREE: THEORETICAL FRAMEWORK

3.0 Introduction

The theoretical framework of this study draws from Herbert E. Wiegand's general theory of lexicography and the theory of lexicographic functions developed mainly by Henning Bergenholtz and Sven Tarp. Section 3.1 provides an overview of Wiegand's theory, describing briefly the main components of the theory in its respective parts. The theory of lexicographic functions is then described in 3.2. Section 3.3 indicates how the two theories are appropriated in a complementary manner in this study. Section 3.4 concludes the chapter.

3.1 The Structure and Contents of a General Theory of Lexicography

Overviews of Wiegand's theory are given in the scholar's four articles (Smit 1996: 1), three of which are in German. In this study, reference is mainly made to Wiegand (1984), which is available in English. However, Smit (1996; 2001; 2002), among other scholars, is very useful as far as Wiegand's theory is concerned. Other publications by the German metalexigrapher such as Wiegand (1996; 1996a; 2004) which are in English are helpful because they elaborate on specific aspects of the general theory. Fig.1 is a sketch of the structure and contents of a general theory of lexicography according to Wiegand's suggestions (1984: 15).

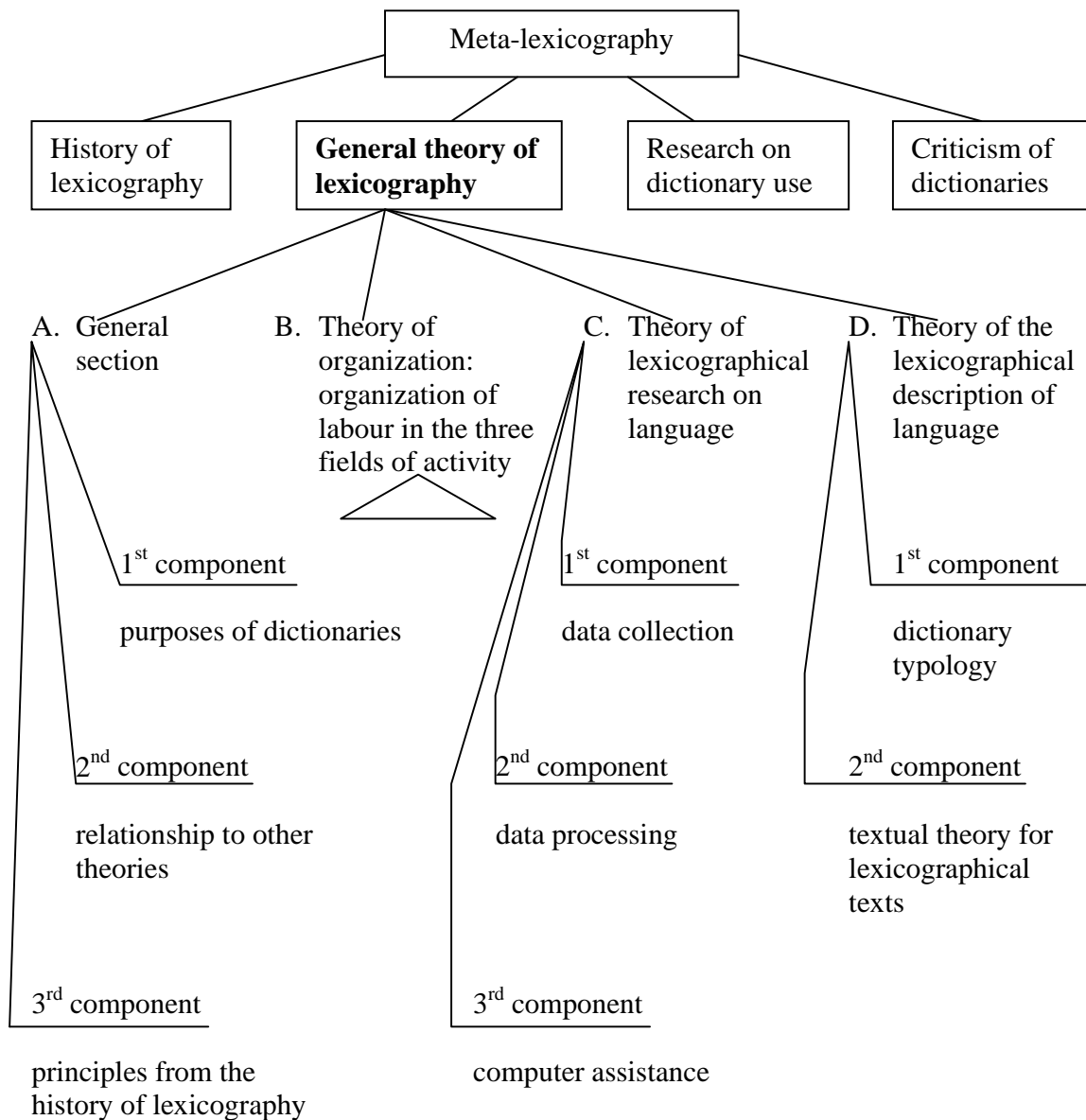


Fig.1: A sketch of the structure and contents of a general theory of lexicography

According to Wiegand (1984: 15), the general theory of lexicography is part of metalexigraphy. Metalexigraphy is the total metadomain of lexicographic research (Hartmann 1999: 156), which also includes three other lexicographic research fields, namely history of lexicography, research on dictionary use and criticism of dictionaries. While these are notably at the same level with the general theory of lexicography and outside its structure as shown in Fig.1, their importance cannot be overemphasised. It is clearly shown that the general theory of lexicography will utilise results of research on

the history of lexicography, research on dictionary use and the criticism of existing dictionaries in the general section. These following subsections provide brief discussions of the constituent parts of the general theory of lexicography, namely the general section, the theory of organisation, the theory of lexicographical research on language and the theory of lexicographical description of language.

3.1.1 The General Section

According to Wiegand (1984: 15), this section consists of the purposes of dictionaries as the first component, the relationship of a general theory to other theories as the second and the principles from the history of lexicography as the final component. Each component will be elaborated in the following separate sub-subsections.

3.1.1.1 Purposes of Dictionaries

According to Wiegand (1984: 15-16):

General purposes of mono-, bi- and multilingual language dictionaries are derived from the communicative and cognitive needs of the society or societies; or possibly goals are set that can stimulate the needs ...

Many scholars concur that dictionaries are practical tools to which their users refer in order to satisfy practical communicative and cognitive needs (Al-Kasimi 1977, McArthur 1986, Bejoint 2000, Tarp 2000, 2007, Gouws 2001; 2004; 2007). It is also notable that different dictionary types will have different purposes (Smit 1996: 64). Smit (1996: 65-66) illustrates how Wiegand arrives at the notion of a *genuine purpose*, whereby there would be “a class of genuine purposes of reference works”. Thus, it is suggested that:

The purposes are given in general terms and classified in groups in such a way that specific and concrete lexicographical purposes may be derived for each dictionary type ... (Wiegand 1984: 16).

It will be noted that this approach forms the basis of the theory of lexicographic functions, but differs slightly in the formulation of the purposes and what finally emerges as the genuine purpose of a particular dictionary. It should be noted, however, that in both theories, the purposes of each dictionary should be formulated at the planning stage, which is the theory of organisation, Constituent B of the general theory. A model for LSP lexicography in Ndebele should emphasise the purposes of the prospective dictionaries.

This will determine lemma selection, which is discussed in Chapter Five and the provision of data categories, which is discussed in Chapter Six.

3.1.1.2 Relationships to other theories

Wiegand (1984: 16) indicates that in this component of the general section of the general theory of lexicography, the connections of lexicography with other theories should be considered. Smit (1996: 66-94) demonstrates, for example, how Wiegand has appropriated semantic theories and theories on special subject field in developing the general theory of lexicography. Hartmann and James (1998: vi) also describe lexicography as:

... a field whose endeavours are informed by the theories and practices of information science, literature, publishing, philosophy, and historical, comparative and applied linguistics. Sister disciplines such as terminology, lexicology, encyclop(a)edia work, bibliography, indexing, information technology, librarianship, media studies, translation and teaching, as well as the neighbouring disciplines of history, education and anthropology, provide the wider setting within which lexicographers have defined and developed their field.

The disciplinary status of lexicography has always been a subject of debate due to its open multi-disciplinary vocation. Before the development of Wiegand's theory, too much emphasis was placed on linguistic theories in the production of dictionaries. Zgusta (1971: 10) states that his motivation in producing *A Manual of Lexicography* was to demonstrate the importance of effectively coceiving lexicographic problems in the framework of the linguistic theory. While this was a great milestone in the establishment of theoretical lexicography, it unfortunately led to the neglect of other aspects of dictionaries by lexicographers, particularly dictionary structures. Consequently, Wiegand (1984: 13) argues that lexicography is neither a branch of linguistics, applied linguistics nor lexicology and that it is "more than the application of linguistic theories and methods or the utilisation of linguistic philological findings". While realising that it would be inaccurate to regard lexicography as a scientific discipline because of its recourse to the results, methods, and theories of various academic disciplines according to the type of reference work being produced, Wiegand (1984:14) argues that lexicography is a "scientific practice aimed at producing reference works on language". A general theory

of lexicography, therefore, intends to “systematically process and explain the reasons for the knowledge required to enable lexicographers to carry out their work appropriately and possible” (Wiegand 1984: 14-15). It would inform lexicographic planning, lexicographic training, research and actual dictionary compilation using methods that would ensure the production of user-friendly dictionaries. None of the theories and methods drawn from the other fields can individually inform the production of any type of dictionary.

The relationship that lexicography has with other disciplines has been discussed by many other scholars. These include Hartmann (2001; 2005), Tarp (2000) and Gouws and Prinsloo (2005). Because the present focus is on Wiegand’s theory, the views of the other scholars will not be discussed in detail here. It suffices to note that while there may be slightly different views regarding the exact disciplinary status of lexicography in view of the manner in which it relates with other theories, Wiegand’s development of the general theory and his bold move to suggest that lexicography is neither a branch of linguistics nor lexicology seems to have inspired many modern metalexigraphers. Reference to other scholars’ positions will be made in the appropriate parts of this thesis. It is extremely important to note that the relationship of lexicography to other theories definitely has implications for the formulation of a model for LSP lexicography. The theory of terminology, for example, will always impact on lemma selection for LSP dictionaries (Sager 1984). Yet again, the impact of subject fields whose LSPs are treated in LSP dictionaries also need to be borne in mind. This will be done in Chapter Five.

3.1.1.3 Principles from the History of Lexicography

The history of lexicography, as outlined in the works of Al-Kasimi (1977), McArthur (1986), Osselton (1983), Gouws and Prinsloo (2005) and Yong and Peng (2007), among others, is long. In the third component of the general section of his general theory, Wiegand (1984: 16) advises that connections should be made with the history of lexicography by establishing the principles that have been followed. Lexicographers can learn from the past, and by studying various dictionary types, they can also determine the validity of certain principles in the planning of new dictionaries.

For this study, the history of Ndebele lexicography outlined in 1.2 is also important in the development of LSP lexicography in the society. Firstly, the formulation of a model for LSP lexicography in Ndebele should be done in view of the available dictionaries in the language. By studying the available dictionaries, principles which relate to language specific issues will be noted and some of the resources and strategies used in the production of the available dictionaries may be useful. Moreover, failed dictionary projects should also be taken into account in order to avoid similar mistakes in the future.

Probably, the major principle from the general history of lexicography, regardless of language and society, would be that lexicography developed as a practical problem-solving activity. Various scholars have argued that dictionaries developed not as theoretical instruments but as practical tools, with each culture fostering appropriate dictionaries characteristic of its demands (Tarp 2004a: 301, Gouws and Prinsloo 2005: 1). Studying the available dictionaries in a speech community may also help lexicographers determine the types of dictionaries needed to address certain problems which may not be covered by the available dictionaries. At times the problems may have been neglected not because the available dictionaries could not cover them, but because well-thought out principles were not applied. Therefore, the lexicographic history of a community may prove to be a very rich source of guidelines in the planning and compilation of new dictionaries.

3.1.2 Theory of organisation

The second part of the general section of the general theory of lexicography, which is not discussed in Wiegand (1984), has received attention from other scholars such as Smit (1996), Gouws (2001) and Gouws and Prinsloo (2005). According to Smit (1996: 105), it serves the purpose of determining the basic rules for organising all the areas of lexicographic activities. On a general note, this means the organisation of labour, which is indicated in Fig.1. It results in the publication of a dictionary as “the culmination of a much more comprehensive set of activities, the so-called lexicographic process” (Gouws and Prinsloo 2005: 9). Every process will have stages and procedures which have to be followed to ensure that the inputs are of acceptable standards. In the following sub-

subsections, the three main stages constituting the theory of organisation, namely drawing up a dictionary plan, establishing a dictionary basis and processing it into a lexicographical file and the actual compilation of the dictionary will be discussed briefly.

3.1.2.1 The Dictionary Plan

All the activities leading to the eventual publication of a dictionary should be preceded by drawing up a dictionary plan and using it for guidance in the long term dictionary production process. A proper dictionary plan has two components, namely the organisation plan and the dictionary conceptualisation plan. Each of these components needs to be prepared with the necessary caution to ensure that the entire lexicographic process leading to the publication of a particular dictionary runs efficiently.

The organisation plan concerns the managerial and logistical issues as budget matters, personnel and infrastructural support, allocation of tasks to members of the dictionary project as well as the time-frame of the dictionary project. It is notable that the tasks of drawing up the organisation plan require lexicographic skills, but these should be complemented by administrative and managerial skills. Dictionary institutes or units should have such skills, lest dictionary production suffers from a haphazard approach in the execution of lexicographic tasks.

The dictionary conceptualisation plan focuses on purely lexicographic issues. The genuine purpose of the envisaged dictionary should be clearly stated. Wiegand (1998: 151), referred to by Gouws and Prinsloo (2005: 151), divides the dictionary conceptualisation plan into five phases, namely the general preparation, the material acquisition, the material preparation, the material processing and the publishing preparation phases. These will not be individually dealt with in detail as they are provided for in 3.2.2.1 and 3.2.2.2.

Before getting to the next sub-subsection, it is important to single out the instruction book or style manual (Gouws and Prinsloo 2005: 15) as an extremely important part of the general preparation and the dictionary conceptualisation plan in general. Among other

issues, it should enlist lemma selection policies, lemma arrangement methods, treatment of lemmata with regard to the provision of data categories, the use of the metalanguage, the use of structural indicators and other aspects of dictionary structure.

3.1.2.2 The Dictionary Basis and the Lexicographical File

Lexicographers should also identify all the sources that will constitute a dictionary basis at the general preparation stage. A dictionary basis is defined as the total of the source language material for the specific lexicographic process, including “all the possible sources which accommodate such material, as well as informants and mother tongue speakers” who help the editorial staff in this activity, according to Wiegand (1998: 139) in Gouws and Prinsloo (2005: 16). This will include all primary, secondary and tertiary sources (Gouws 2001: 68). The terms *primary sources*, *secondary sources* and *tertiary sources* here are used in a lexicographic sense which is different from the use of the terms in research generally as done in 2.3.5. A dictionary basis is, therefore, a result of data collection (see 3.1.3.1). This dictionary conceptualisation plan should describe clearly the established dictionary basis. Otherwise the material acquisition stage would be disorganised and probably result in a final product which fails to help the users.

Once a dictionary basis has been established, it should then be processed into a lexicographic file. According to Wiegand (1984: 14), a lexicographic file is a collection of citations for potential lemma signs selected from the dictionary basis. Thus lemma selection policies explicated in the instruction book begin to work at this stage. The lexicographical file should indicate the source from which a particular lemma sign was drawn as well as the date. This is a very important stage in a specific lexicographic process. For LSP lexicography, the services of experts would be essential to ensure that the final product really assist the intended user groups.

The Actual Writing of the Dictionary

The actual writing of the dictionary texts should also be approached in a systematic way according to the theory of organisation. Smit (1996: 117) indicates that the editors of the dictionary can divide the work according to letters or subject fields. Each editor should be guided by the instruction book for consistency and the editors should revise each other's work. The chief editor has to ensure that the final product reflects uniformity regardless of the fact that the dictionary articles may be written by various authors. Poor planning in this respect may result in what De Schryver (2005) calls concurrent over- and under-treatment, whereby lexicographers fail to be consistent in the treatment of lemmata as the compilation process progresses leading to some articles, particularly in the first letters of the dictionary being longer than those in the last letters. The use of cross-references should also ensure that the dictionary is one complete and intact object.

3.1.3 Theory of Lexicographic Research on Language

According to Wiegand (1984: 16), "a theory of lexicographical research is the class of all scientific methods that can be applied in lexicography". In Fig.1 it is notable that there are three components in this constituent part, namely data collection, data processing, and computer assistance. It is necessary to elaborate on each of these in terms of Wiegand (1984) and other latest developments in the field.

3.1.3.1 Data Collection

Following Wiegand's subdivision of the dictionary conceptualisation plan (Gouws and Prinsloo 2005: 15), data collection falls within the scope of material acquisition. It concerns "the collection, composition, representativity, function and typology of lexicographical corpora relative to dictionary types" (Wiegand 1984: 16). In other words, it refers to all research activities leading to the establishment of a dictionary basis. In that regard, data collection is an extremely important stage of a specific lexicographic process. Although different dictionary projects may share some material, there should be some differences relative to the specific requirements of each dictionary project. For example, while a model for LSP lexicography may give general guidelines which may be followed in Ndebele regarding data collection, data collection for each LSP dictionary

will be determined by the nature of the subject field, the availability and nature of the available LSP texts. This is demonstrated in Chapter Five. Therefore, the methods of data collection should be clearly identified in the dictionary conceptualisation plan for each specific lexicographic process.

3.1.3.2 Data Processing

When a dictionary basis has been created, data processing is undertaken “so that a dictionary file suitable for a particular dictionary type or a group of dictionary types is established” (Wiegand 1984: 16). A brief discussion of the creation of a lexicographical file has been discussed in 3.1.2.2. As an important part of the model for LSP lexicography in Ndebele, data processing is discussed in Chapter Five.

3.1.3.3 Computer Assistance

Wiegand (1984: 16) states that depending on the progress of computational lexicography, a theory about computer assistance may be added as the third component of the theory of lexicographical research on language. The progress of computational lexicography can no longer be questioned in modern-day lexicography. A model for LSP lexicography in Ndebele should be open to computer assistance as an important element in at least three ways. Firstly, where the use of electronic corpora would be feasible, the corpora would be stored in computers. Secondly, the actual writing of dictionaries has to rely on computers, considering that the available ones were written that way. Finally, the rendering of some dictionaries on CD-ROM or internet formats has to be considered as part of progress not only in technology but lexicography as well.

3.1.4 Theory of the lexicographical description of language

Wiegand (1984: 16) states that a theory of lexicographical description of language concerns all the presentations of the results of linguistic lexicography as texts about language, which include language dictionaries, word indexes, concordances and glossaries. In 3.1.4.1 and 3.1.4.2 respectively, dictionary typology as a textual theory for lexicographical texts are discussed as the two major components of this theory.

3.1.4.1 Dictionary Typology

According to Wiegand (1984: 17), dictionary typology is a major component of a general theory of lexicography since it affects the formulation of many statements in the theory. This is also true for this study because the envisaged model is in respect of a particular type of dictionary. Realising the importance of dictionary typology, various scholars have used various criteria to develop typological distinctions of dictionaries. Yong and Peng (2007: 61-67) review various typological classifications by several scholars to show their limitations. Smit (1996: 156-168) also discusses various attempts towards dictionary typology by other scholars, including Wiegand (1988). An equally detailed review of dictionary typology will not be offered here. It suffices to state that dictionary typology generally seems to be fluid, highlighting overlaps between dictionary types such that fixing a particular type of dictionary according to a particular criterion does not only show limitations of the classification system, but also limitations of dictionaries produced in view of such criteria. Gouws (2001) therefore advises that decisions regarding the typology of dictionaries to be compiled be based on proper needs analysis and reference skills of the intended users. A functional approach to dictionary typology is therefore more useful as it allows for innovative typological freedom (Gouws 2001; Gouws 2007). Instead of trying to fix a dictionary into a particular type, lexicographers can accommodate features from various types depending on lexicographic needs of the target users. Therefore, a more useful approach to dictionary typology should be open to subtypological classifications and typological hybrids which may be fostered by function-merging. This issue is discussed in a more concrete way using the prospective NLLTD as an example in 4.6.

3.1.4.2 Textual Theory for Lexicographical Texts

Wiegand (1984: 17) states that the textual theory for lexicographical texts has to do with the structure of lexicographical texts or dictionaries. Before Wiegand's general theory of lexicography, emphasis was put on the contents of the dictionary due to a pre-theoretical approach and, later on, a more linguistic approach to dictionary making. As noted by Gouws (2004: 68) and Gouws and Prinsloo (2005: 6), research on dictionary structure

focuses on both the contents and form of dictionaries. This has direct consequences for the user's access to the data and information retrieval. In this regard, Wiegand, together with other modern metalexigraphers, have developed insightful theories regarding various types of dictionary structures (e.g. Wiegand (1996; 1996a; 2004), Gouws (2003; 2004; 2006; 2007), Nielsen (1995; 1999), Tarp (1999)). Dictionary structures are discussed in Chapter Seven, but some other aspects of the macrostructure and the microstructure get treated in Chapters Five and Six respectively.

3.2 The Theory of Lexicographic Functions

The theory of lexicographic functions has been developed by Danish scholars led by Henning Bergenholtz and Sven Tarp at the Aarhus School of Business's Centre for Lexicography. The following are some of their publications in which the theory is explained and applied: Bergenholtz (2003), Bergenholtz and Tarp (eds.) (1995; 2003), Tarp (1999; 2000; 2002; 2004; 2004a; 2005) and Nielsen (1999). The theory also informs the publications by other scholars who have embraced it such as Gouws (2004; 2004a; 2007) and Gouws and Prinsloo (2005).

The theory of lexicographic functions considers lexicography as an independent discipline with its own subject matter, namely dictionaries (Bergenholtz and Tarp 2003: 172, Tarp 2004a). Regarding, the relationship which lexicography has with linguistics, it is argued that lexicography ought to treat linguistics in the same way as the other disciplines whose results may only be used as and when it is necessary in order to produce high quality dictionaries (Tarp 2004: 224). Emphasis is put on dictionary users and the lexicographic functions which a dictionary serves or should serve. The proponents of the theory acknowledge that the notion of lexicographic functions is not their discovery. They trace it to the works of a Russian lexicographer, L. V. Shcherba, whom they regard as the founder of a general theory of lexicography in 1940 (Tarp 2004a: 301). However, they re-interpret the notion in a way that results in the development of a theory which is not only easy to apply, but also highly productive in the compilation and review of dictionaries. In what follows, an attempt is made to show how a functionalist approach may be developed for a particular dictionary by describing user

profiles, user situations, user needs and finally lexicographic functions as the key elements of the theory of lexicographic functions.

3.2.1 The User Characteristics

Tarp (2004: 225) argues that the theory of lexicographic functions is user-driven. Metalexigraphers are, however, aware that users always had a role in the compilation of dictionaries although it was not as pronounced as it is today (Bergenholtz and Tarp 2003, Tarp 2002; 2004a; 2007). Hartmann (1989) is notably one of the pioneering and inspiring works in advancing the now popular user perspective. Since then, dictionary making has generally become mutual communication between lexicographers and their intended users (Yong and Peng 2007: 28). However, some lexicographers are still unclear as to how users should be appropriated in a really useful way in the production of user friendly dictionaries.

The theory of lexicographic functions requires that every dictionary should be compiled with a certain user in mind. A user profile should be drawn up at the dictionary planning stage (Tarp 1995: 20). The profile should be based on the characteristics of the prospective users. Some of the questions which lexicographers need to ask themselves in order to determine the characteristics of users include the following:

- Which language is their mother tongue?
 - At what level do they master their mother tongue?
 - At what level do they master a foreign language?
 - How is their experience in translating between the languages in question?
 - What is the level of their general cultural and encyclopaedic knowledge?
 - At what level do they master the special field in question?
 - At what level do they master the corresponding LSP in the foreign language?
- (Bergenholtz and Tarp 2003: 173).

Not all these characteristics will be relevant for every dictionary. For example, the relevance of each characteristic would depend on the particular dictionary being

compiled. For the NLLTD, only the users' experience in translating is less relevant, but it may be relevant for other LSP dictionaries which have translation as their intended function. Section 4.2 of this thesis provides a user characterisation for the prospective NLLTD. It will emerge that drawing up a profile of users for a particular type of dictionary enables the lexicographer to determine the real needs of the users.

3.2.2 The User Situations

Following the interpretation of Bergenholtz and Tarp (2003: 172) user situations may be understood as the human activities or the social situations in which users experience problems which may be resolved by consulting a dictionary. These are the so-called extra-lexicographic problems. Other publications which discuss user situations in this sense are Tarp (2000; 2002; 2004; 2004a; 2005), Bergenholtz and Tarp (2003) and Gouws and Prinsloo (2005). A distinction is made between cognitive and communicative situations. In the former, the user may want to obtain additional information on some topic. The information may be cultural and encyclopaedic, specialised in respect of specialised subject fields or disciplines, or it may be related to a specific language. On the other hand, communication-oriented situations involve problems related to the production, reception and translation of texts. A communication model is thus used to understand such situations and detect their characteristic problems (Bergenholtz and Tarp 2003: 174). It should be reiterated that user situations should not be abstract, invented or generalised, but they should be related to specific user groups. Since different user groups engage in different situations, it then follows that they encounter different problems and have different needs which may be addressed by means of lexicographic data. The user situations for the NLLTD users are presented in 4.3.

3.2.3 The User Needs

Reference needs is one of the most frequently used expressions in metalexicographical literature especially that which deals with the provision of various data types in dictionaries. Lexicographers tend to claim that they often use various methods to solicit the reference needs of the users before compiling dictionaries. Unfortunately, what is most often referred to as reference needs are at times what users expect to find in

dictionaries. Tarp (2004a: 312) stresses the necessity to make a distinction in this regard when he writes that:

... no data is included because of tradition or the practice of existing dictionaries. It is not a question of what users expect to find in the dictionary due to an improper dictionary culture, but what they actually need.

In Bergenholtz and Tarp (2003: 172), user needs are described as “what is needed to solve a set of specific problems that pop up for a specific group of users with specific characteristics in specific users situations”. Thus, what users actually need should be linked with their extra-lexicographic problems. Therefore, lexicographers would determine the user needs by looking at the potential of various data categories in solving specific problems faced by users in specific situations. The remitting effect of this exercise is that the inclusion of data types is done as a means of addressing the real user needs. This is demonstrated in 4.4 regarding the needs of NLLTD users.

3.2.4 Lexicographic Functions

Bergenholtz and Tarp (2003: 176) state that once lexicographers know the user and its specific characteristics, the type of user situations and specific user needs related to these situations, they can then proceed to determine the lexicographic functions of a particular dictionary. A lexicographic function of a given dictionary is described as “to provide assistance to a user group with specific characteristics in order to cover the complex of needs that arise in a specific type of user situation” (Bergenholtz and Tarp 2003: 176). Because the functions are determined by user situations, they are classified in correspondence with the situations. The following are listed as the most important types of cognitive lexicographic functions:

- to provide general cultural and encyclopaedic information to the users
- to provide special information about the subject field to the users
- to provide information about the language to the users (Bergenholtz and Tarp 2003: 176).

It is notable that the above functions are general and that not all of them will be relevant to every dictionary. They may, however, be made more specific in respect of a particular dictionary. The possible cognitive functions of the prospective NLLTD, for example, are listed in Section 4.5. Communication-oriented functions are those that are served or ought to be served by dictionaries in communication-oriented situations. These include the following:

- to assist users in solving problems related to text reception in the native language
- to assist users in solving problems related to text production in the native language
- to assist users in solving problems related to text reception in a foreign language
- to assist users in solving problems related to text production in a foreign language
- to assist users in solving problems related to translation of texts from the native language into a foreign language
- to assist users in solving problems related to translation of texts from a foreign language into the native language

Again, it should be noted that a particular dictionary may be concerned with at least one or some, but not all of the functions. Lexicographers need to decide at the planning stage of the lexicographic process on those functions which the prospective dictionary is intended to fulfill. Then, the totality of the functions which a particular dictionary is compiled to serve becomes the genuine purpose of that particular dictionary (Bergenholtz and Tarp 2003: 176, Gouws and Prinsloo 2005). The lexicographic functions of the prospective NLLTD are classified in Section 4.5. In the next section, more details are given on how the theory of lexicographic functions, discussed in this section, will be used together with Wiegand's general theory of lexicography, discussed in the previous section.

3.3 Theoretical Applications

As stated in 3.0, this study draws from both the general theory of lexicography of Wiegand and the theory of lexicographic functions of mainly Bergenholtz and Tarp. In

3.1 a discussion of the former theory was made and indications have been made in appropriate subsections as to how this study employs the theory. Mainly, this study uses Wiegand's theory to ensure that every dictionary project is situated in a particular lexicographic scene. By studying the lexicographic history of a community, lexicographers can get useful insights in the planning of a new dictionary. Wiegand's theory is also useful regarding the production of a dictionary as part of a lexicographic process. This ensures that as a process, dictionary making is well organised. Also more importantly, Wiegand's theory gives due attention to dictionary structures. Probably, the emphasis on dictionary structures brought about by Wiegand's elaboration of Section D of his theory, namely the theory of lexicographical description of language may be regarded as one of the most significant milestones in lexicographic development since the 1970s. These developments enabled lexicographers to present lexicographic data in a manner that enhances users' access to it and optimal information retrieval.

However, it should be acknowledged that the explanation and use of Wiegand's theory in this thesis is an oversimplification. It is accepted that Wiegand's writings are generally difficult to assimilate, particularly to readers who do not understand German (Smit 2001). Smit (2002) also argues that Wiegand's efforts have been less remitting because of the obsession to use complicated reasoning in the development of his ideas. He is likened to a loner armed with his theory as a "metalexicographical panga" in the jungle (Smit 2001: 297).

Although Wiegand's theory provides a comprehensive account of dictionary production as a procedural process, it is partly in respect of the present writer's inability to read all or most of the scholar's work regarding his theory that a functionalist theory is also employed. The functionalist theory provides a principle which may be adopted at various stages of dictionary production in order to arrive at decisions which result in user-friendly dictionaries. However, one should be aware of the fact that the theory of lexicographic functions and the general theory of lexicography are different theories (Bergenholtz and Tarp 2003). Nevertheless, the common postulates of lexicography as an independent discipline and its product, a dictionary as a utility tool makes them complementary if

used with great care. This study does not undertake to emphasise the differences between the two theories, particularly regarding the notions of lexicographic functions, genuine purpose and user situations. This is done by Bergenholtz and Tarp (2003), although it would appear as a severe criticism that Wiegand's theory lacks a functional approach, especially if one reads the works of Smit (1996; 1998; 2001; 2002). One may then conclude that the theories are different in their approaches and extents.

3.4 Conclusion

This chapter has indicated how a general theory of lexicography developed by the famous German metalexicographer, Herbert Ernst Wiegand and the theory of lexicographic functions championed by the Danish scholars at the Centre for Lexicography at the Aarhus School of Business will be used in a complementary way. From both theories, it should be underlined that this study approaches LSP lexicography taking into account that lexicography is an independent discipline and that its products are utility tools. From a general theory, it follows that the compilation of a dictionary should be done in a systematic way, by viewing its production as a culmination of a lexicographic process. This ensures proper planning taking into cognisance all the lexicographic activities involved in dictionary production. Then, the structure of a dictionary, which is covered under the second component of a general theory, will be approached from a functionalist perspective where every decision is adopted in a bid to achieve specific lexicographic functions. The conceptualisation of the NLLTD in the next chapter clarifies this, while the lexicographic research and description of language in the subsequent chapters emphasise the need to fulfill the lexicographic functions identified in 4.5.

CHAPTER FOUR: BASIC GUIDELINES FOR THE NLLTD

4.0 Introduction

This chapter presents some general theoretical considerations for LSP lexicography in Ndebele. Drawing from the theoretical framework formulated in the previous chapter, it applies Part B of Wiegand (1984)'s general theory of lexicography, which is the theory of organisation, to demonstrate that every dictionary should be planned and compiled as part of at least one lexicographic process (Gouws and Prinsloo 2005). This is notably important for a general model which is envisaged to guide several LSP dictionaries in Ndebele with the aim of expanding the use of the language in academic, formal and specialised domains. For specific references to the NLLTD, the functional approach is then applied to shed more light on the potential users of the dictionary, their situations of dictionary use, their lexicographic needs, the lexicographic functions that the NLLTD may serve and hence, the type of a dictionary that should be produced. Adopting the functional approach is meant to demonstrate that a dictionary specific lexicographic process should be user-driven. For the purpose of this study, it provides a solid foundation for the arguments that will be made regarding lemma selection, lemma treatment and dictionary layout in Chapters Five , Six and Seven respectively. Given that this is proposed for a specific lexicographic process, which on its own is preceded by primary and secondary comprehensive lexicographic processes (See 4.1), it should be noted that the issues discussed in this chapter are general theoretical considerations which should be considered for each and every dictionary. Naturally, the dictionary specific aspects such as the target users and the nature of the subject field for which an LSP dictionary will be compiled will always emerge in each specific lexicographic process.

4.1 The NLLTD as Part of Lexicographic Processes

This section applies Part B of Wiegand's (1984) general theory of lexicography, which is the theory of organisation. This helps in conceptualising the NLLTD within a context of lexicographic processes. A distinction is, therefore, made between three types of lexicographic processes, namely a primary comprehensive lexicographic process, a secondary comprehensive lexicographic process and a specific lexicographic process.

Gouws and Prinsloo (2005: 10) also indicate that a hierarchical relationship exists between these processes.

A primary comprehensive lexicographic process constitutes the highest but general level of lexicographic planning. This includes the identification of various dictionary types required to address cognitive and communication needs of various speech communities in a society. In the context of South Africa, Gouws and Prinsloo (2005) indicate that this role is played by PanSALB which coordinates with the Department of Arts and Culture, National Lexicographic Units (NLUs) and publishers. This ensures informed prioritisation of dictionary projects in view of real lexicographic needs of speech communities. It also facilitates collaboration among the NLUs and avoids duplication of efforts, and hence maximum utilisation of human and financial resources. The NLUs are then at the core of secondary comprehensive lexicographic processes which are concerned with internal lexicographic planning and liaison with other NLUs, publishers and PanSALB.

A comprehensive secondary lexicographic process involves the managerial and logistical issues in the practical lexicographic activities of lexicographic institutions. It leads to various dictionary specific lexicographic processes which focus on individual dictionary projects. A dictionary plan is the first output of a specific lexicographic process while the dictionary becomes the ultimate output. The scope of a specific lexicographic process, therefore, encompasses both logistical and actual compilation planning for a specific dictionary. Its logistical provisions produce part of the lexicographic plan called the organisation plan which spells out budget matters, personnel issues, the time-frame of various lexicographic activities as well as the entire dictionary project from the beginning to the end. On the other hand, dictionary specific planning issues would produce the dictionary conceptualisation plan which is constituted by the production of an instruction book or style manual. It spells out practical issues of material acquisition, material preparation, and material processing up to dictionary publication (Gouws and Prinsloo 2005). The discussions in Chapters Five, Six and Seven are some of the lexicographic

issues which an instruction book for the NLLTD should address in finer details. In fact, this applies to all dictionary projects.

The hierarchy of lexicographic processes demonstrated by Gouws and Prinsloo (2005) in the case of South African lexicography is difficult to conceive for Zimbabwean lexicography. This is because there is no official national language board such as PanSALB to oversee not only lexicographic activities but language planning in general. The ALLEX project/ALRI has therefore been at the centre of Zimbabwean lexicography for 15 years since 1992. The ALLEX Long-Term Plan presented in a tabular form below becomes the main reference for both primary and secondary comprehensive lexicographic processes.

PHASE	MAIN PROJECT	OTHER PROJECT(S)
I 1992-1995	General Shona Dictionary	Glossary of Musical terms
II 1996-2001	(1) General Ndebele Dictionary (2) Advanced Shona Dictionary	Glossary of Linguistic and Literary Terms
III 2001-2006	(1) Scholar's Shona Dictionary (Jnr. Level) (2) Advanced Ndebele Dictionary	Specialised Glossaries: (1) ZimSign (Sign Language with Glosses in Shona, Ndebele and English) (2) Science/Technical (3) Other
IV 2006-2010	(1) Scholar's Ndebele Dictionary (Jnr. Level) (2) General Dictionaries (Other Zimbabwean Languages)	Bilingual Dictionaries (e.g. Shona-Ndebele, Shona and Ndebele-English/French/Swahili/Chewa)

Table 2: The ALLEX Long-Term Plan (Adapted from Chimhundu 1994).

The ALLEX Long-Term Plan was adopted in the Third ALLEX Retreat held in Kadoma in 1992. This followed an agreement of research partnership between the African Languages and Literature Department of the University of Zimbabwe and the Department of Scandinavian Studies and Comparative Literatures of the University of Oslo. A more detailed history of the ALLEX project can be found in Chabata (2007), where it is noted that ALRI has engaged in diverse language planning activities other than dictionary making. Here the focus is on ALRI as a central organ of the lexicographic processes in Zimbabwe.

ALLEX researchers identified dictionary projects and prioritised some as main projects over others. This was done in view of the cognitive and communicative needs identified in the country. The plan resulted from a primary comprehensive lexicographic process in which ALLEX researchers, in coordination with publishers, were the major role players. The project coordinators also allocated financial and human resources to individual dictionary projects and determined the time-frames for each of project. Again, this constituted the secondary comprehensive lexicographic process. The editorial staff responsible for a particular dictionary would then occupy the central stage when it came to the planning of individual dictionary projects. Of course, this was done in accordance with the long-term plan. Further to this, ALRI has also served the consultative role to aspiring lexicographers from other institutions who have submitted proposals for dictionary projects, one example being a Shona Dictionary of Mathematical terms by K. T. Gondo of Masvingo State University. For such projects which were not in the institute's immediate plans, ALRI has assisted such researchers with lexicographic training and planning. Another instance which somehow elevates ALRI to the status assumed by PanSALB in South African lexicography involved one of the ISN editors, a former ALRI staff member who liaised with ALRI researchers to confirm if he could apply for funding from his current university for the production of the NLLTD. This was in 2006, when there was a stark reality that the NLLTD would never be compiled as part of the ALLEX project, which was scheduled to end in 2007. That way, ALLEX/ALRI activities have encompassed the primary comprehensive lexicographic process, the secondary lexicographic process and specific lexicographic processes since 1992.

The 'Glossary of Linguistic and Literary Terms' in the second phase (1996-2001) represented the DDU and the NLLTD, the term 'glossary' being used to refer to 'dictionary' in the usual historical interchangeability of the terms, which is not always correct. The DDU was eventually published in 2006. The NLLTD still remains a prospective dictionary even though we are now in a post-ALLEX era. In fact, the DRM and the ISM which were published in 2005 and 2006 respectively were supposed to be compiled during the first phase of the project (1992-1995) as represented by 'Glossary of Musical Terms' in Table 2. In fact, all the ALLEX dictionaries, with the exception of *Duramazwi ReChiShona* (Chimhundu 1996), *Duramazwi Guru ReChiShona* (Chimhundu 2001) and the ISN, were published way off schedule, with several of them yet to be compiled in the post-ALLEX era. One major reason for this misfortune has been ALRI's lack of personnel capacity. While the assertion by Gouws (2001: 64) that most dictionary projects fail either due to an ill-founded lexicographic process or failure to apply a well-formulated one may apply to a large extent to the Zimbabwean ALLEX case, some of the reasons were due to national socio-economic factors which ALRI alone could not control. The Post-ALLEX ALRI Strategic Plan therefore contains most of the dictionary projects contained in the 1994 ALLEX plan and this is meant to continue the ALLEX legacy.

A more detailed review and assessment of the ALLEX project may be more helpful if dictionary production in Zimbabwe has to be understood in the context of lexicographic processes and the theory of organisation as a component of a general theory of lexicography. Unfortunately, this study focuses mainly on LSP lexicography, its major thrust being the formulation of a model for LSP dictionaries in Ndebele, with the NLLTD being the main reference. As notable in various parts of this thesis, the compilers of the NLLTD or any other prospective LSP dictionary in Ndebele will benefit from the previous experiences which resulted in the production of the ISN, the ISM and other LSP dictionaries in Shona. The specific lexicographic process of the NLLTD should, therefore, consider the primary and secondary comprehensive lexicographic processes which led to its identification as one of the relevant LSP dictionaries in Ndebele. While LSP lexicography in Zimbabwe endeavors to develop indigenous languages and expand their use in academic, formal and specialised domains, it should be noted that the starting

point should be those subject fields which will ensure maximum use of the Ndebele medium in Ndebele studies, which are linguistics and literature. While being one of the subject fields which are in urgent need of specialised dictionaries, probably they are also the ones in which the compilation of the dictionaries would be less demanding than other subject fields.

Moreover, the conceptualisation of the NLLTD as a bi-subject field dictionary also needs to be understood in the sense that two dictionaries, one for linguistic terms and another for literary terms, would be more resource demanding while their functions can be easily merged into one dictionary. From the view of both the primary and secondary lexicographic processes, the NLLTD becomes economic considering that there are many other dictionaries that the Ndebele community still needs. In this regard, the NLLTD becomes an interesting and at the same time, most convenient case study. The theory of organisation becomes an important component of a general theory of lexicography, developed by Wiegand (1984) and applied in the works of other metalexigraphers such as Gouws (2001) and Gouws & Prinsloo (2005), in contextualising the NLLTD within primary and secondary comprehensive lexicographic processes. Although it is envisaged that the theoretical model which this study intends to formulate should throw some light on the compilation of other LSP dictionaries in addition to the NLLTD, it is advised that the success of each dictionary will be determined by its specific lexicographic process. In this regard, the rest of this chapter is specifically devoted to the NLLTD.

4.2 The Proposed NLLTD User Profile

As a way of embracing the user perspective as an important element of lexicography, and in particular the functionalist approach, an adaptation of Tarp (1995: 21) in the form of Table 3 below is therefore considered an essential component for a theoretical model for LSP lexicography in Ndebele and the NLLTD in particular. It is around this profile that the discussions of lemma selection, lemma treatment and data distribution in Chapters Five, Six and Seven respectively will revolve.

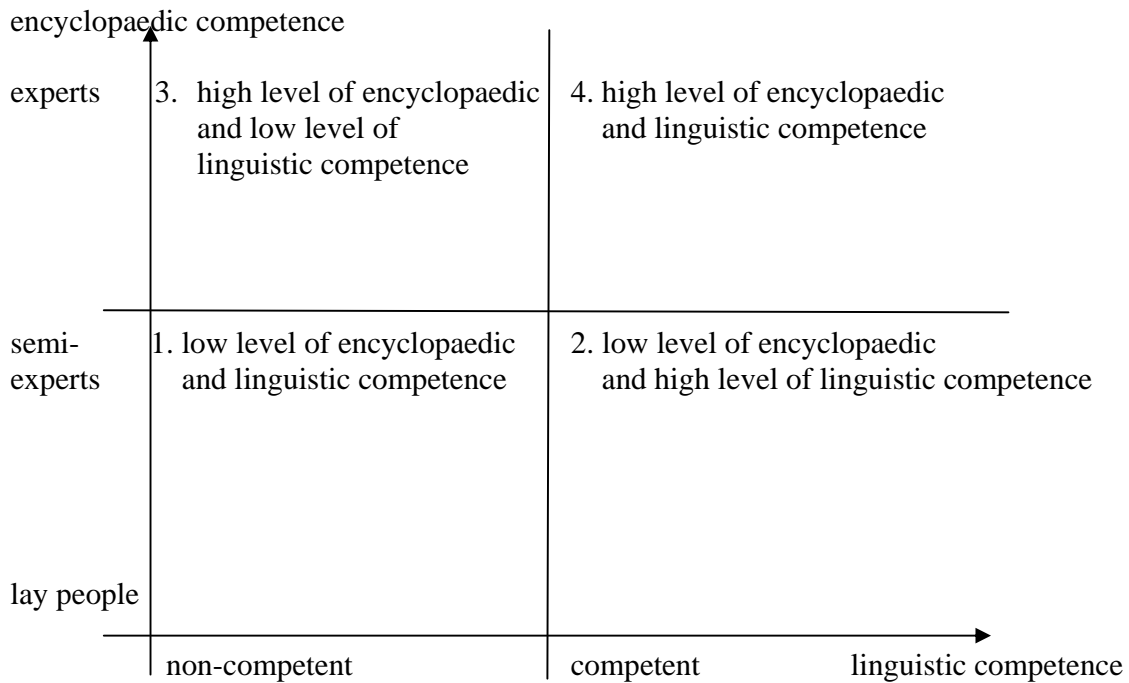


Table 3: A User Profile for LSP Dictionaries (adopted from Tarp 1995: 21).

As noted in 3.2.1, the NLLTD user profile is based on the characteristics of the potential dictionary users. According to Tarp (1995: 20), the pivot in any user profile is the native language of the users. Native language competence may determine encyclopaedic competence and hence LSP competence in some fields. That way, it may affect both encyclopaedic guidance as well as the defining vocabulary. This will of course depend on the age of the users, their level of education and exposure to the subject field in question.

In some dictionaries, it would also be important to consider the foreign language competence of the potential users. The users' competence in this respect may determine whether the native language or the foreign language has to be adopted as the metalanguage. In the case of the NLLTD, Ndebele is the preferred language since the dictionary is intended to facilitate sole and effective use of Ndebele as a medium of instruction in teaching Ndebele linguistics and literature at all academic levels. It is notable, however, that English could be used considering that it has been the medium of instruction for teaching both Ndebele language structure and literature from high school

to university level, albeit without a clear and consistent policy framework. The LSP competence which some potential NLLTD users have in linguistics and literature may then be exploited by providing translation equivalents for Ndebele terms (see 6.2.2.2). This way, potential users' competence in the English language becomes an important consideration for the NLLTD. In Table 3, linguistic competence therefore refers to both native language (Ndebele) competence and foreign language (English) competence, but it should be noted that one's competence in the two languages would never be at exactly the same scale, although there may be some form of correlation.

Encyclopaedic competence in a particular subject field becomes the final consideration in the characterisation of potential users of a prospective dictionary. In the culture-dependent subject fields, it would be complemented by one's knowledge of the culture of the native or a foreign community. Encyclopaedic competence in the relevant subject fields is the basis for distinguishing between lay people, semi-experts and experts as potential users of LSP dictionaries. In most cases, linguistic competence, and hence LSP competence would correlate with encyclopaedic competence in the sense that while a lay person may be relatively less competent in the native and foreign language, an expert may be relatively more competent. It therefore follows that lexicographers have to be clear as to at whom their LSP dictionaries are directed since, according to Yong and Peg (2007: 28), lexicographers will vary their policies and methods to suit the needs and expectations of different user groups, just as one uses different tones and languages to talk to different people. The main principle is that a dictionary for all is a dictionary for nobody and hence, no dictionary at all. However, Tarp (1995: 21) observes that the transition between the user types is fluid.

It is envisaged that LSP Ndebele dictionaries to be produced in the foreseeable future will be targeted mainly at Ndebele native speakers, in line with the ALRI's mission to develop and expand the use of indigenous languages in wider spheres of communication. Prior to the publication of the ISM, Ndebele speakers had been used to LSP dictionaries designed for native speakers and second language speakers of English. Such dictionaries have thus far been helping Ndebele speakers increase their encyclopaedic knowledge and

address their communication problems in fields such as linguistics, literature, law and medicine. The theoretical model envisaged in this study is inspired by ALRI's endeavor to promote indigenous languages, of which Ndebele is one. Therefore, all the potential users of the NLLTD are expected to be competent in Ndebele as native speakers. Although some of the users would be having a language such as Kalanga, Tonga or Sotho as mother-tongue, they would be reasonably competent in Ndebele since it is introduced and taught as a mother-tongue at childhood education. The level of education of all the users will affect, in a similar way, their encyclopaedic as well as foreign language competence. On this basis, it is possible to attach the prospective NLLTD users in a user profile represented on Table 3, namely lay people, semi-experts and experts. However, it should be noted that for some subject fields in Zimbabwe, bilingual LSP dictionaries with English as one member of the language pair have to be compiled as a way of improving specialised communication and cognitive development in the indigenous languages. This is a very important point, but it warrants a separate study and will not be pursued any further here.

The NLLTD users who may be considered as laypeople would include general speakers of the language who are not even experts from any other field and have no prospects of becoming experts in any field. Some of the general speakers of the language missed or failed to utilise opportunities of learning Ndebele as a subject, but are able to read and write, talk about the language and its literature and may have interest in these subjects. It may seem ridiculous to analyse them as users of an LSP dictionary, but it is not unusual for LSP lexicographers to consider them as part of the target users of their dictionaries. Statements such as "... and anyone with an interest in the field ..." are very common in LSP dictionaries. However, it has been argued that the language used by such users when communicating among themselves or even with experts cannot be considered as LSP and that when communicating with such users, experts tend to cease using that (Bergenholtz 1995: 17). Given this, LSP lexicographers probably need to refrain from having their dictionaries targeted at such users who are collectively referred to as "the general public" because they are often very difficult to characterise. It is not a worthwhile lexicographic enterprise to strive to meet the needs of such users considering that it is not only difficult

to characterise them, but also to identify typical or concrete situations where they may need a dictionary to solve specific problems. That way, the general public cannot be borne in mind as users of the NLLTD regardless of the fact that they may use it. Otherwise their needs can be better addressed in the ISN.

Ndebele pupils at primary and junior secondary levels can also be categorised as lay people in the NLLTD user profile. They may remain lay people or become either semi-experts or experts after studying Ndebele as a subject at these levels where elementary rules of word-formation, grammar and basic literary skills are taught. The NLLTD may be produced with a view of assisting this group of users by addressing communicative and cognitive problems which this group may encounter when communicating with semi-experts and experts. If this is to be the case, the lexicographer has to consider that this group of users has low levels of competence in the native language, in the foreign language, in the subjects concerned as well as in dictionary use. The implications for the NLLTD would be to provide lexicographic treatment of all common words about language and literature in a manner that allows access to data by any person who can read Ndebele. The ISN caters mainly for secondary school students and this way, can prove not to be user-friendly to all the users in this group. Therefore, providing for this group of users clearly implies not only including some elements which would be deemed very general by semi-experts and experts in the subject fields, but also producing a dictionary that is less sophisticated than the ISN. It would not be a noble idea to provide for such users through the main output of the NLLTD project, considering that some of them will remain lay people when they fail to do well in the study of Ndebele as a school subject. While their needs should not be dismissed, they cannot be addressed before those of the users with a realistic potential of improving research and communication in Ndebele linguistic and literary studies through the use of the dictionary.

The depth of studies in Ndebele language structure and literature increases towards the attainment of an 'O' Level certificate, through to 'A' Level up to diploma and degree levels. Students at all these levels can be categorised as semi-experts. Semi-experts would also include Ndebele speakers who would be experts from other fields like artists and

creative authors who are not necessarily critical and academic experts in literature. Unlike lay people and experts, semi-experts have various competence levels which range between low and high such that they cannot be categorised into either of the two extremes. As semi-experts, their encyclopaedic competence would be reasonably higher when compared to that of lay people and some of them would be potential experts, but still short of some characteristics of experts. Although their competence in the native and foreign languages may be high, their LSP competence in both languages would be lower. In the above user profile, user groups 2 and 3 should be constituted of such users for the NLLTD. As it will be noted in the later sections of this chapter, this group of users is involved in the real situations where dictionary use may be required to enhance communication and knowledge development within the linguistic and literary fields in Ndebele. It is out of this group that experts are produced. For this reason, the NLLTD should be compiled with semi-experts in mind.

For the NLLTD, experts should be seen as lecturers of Ndebele linguistics and literature who have studied either one or both of the fields up to higher levels. Thus their encyclopaedic competence is high in the subjects of their specialty. However, this does not necessarily mean that they know everything and do not need a dictionary to expand their knowledge. Their competence in Ndebele is high considering that they are native speakers of the language, although the same cannot be said of their LSP competence which is not even adequately developed. Their LSP competence is relatively higher in English which they first passed at 'O' Level in order to be admitted at universities where they also used it as the medium of expression. If Ndebele has to be used as the sole medium in teaching Ndebele at college and university levels, then experts definitely need the NLLTD. However, it should be noted that they would need the dictionary in order to interact not only among themselves, but with semi-experts and lay people as well.

From the foregoing, it is clear that the NLLTD would be more useful to Ndebele students at senior secondary school level, colleges and universities who are categorised as semi-experts as well as lecturers who are categorised as experts in LSP dictionary user-profiles. The emphasis that will always be on the university level for guidelines to the

NLLTD compilation activities does not imply that university students and lecturers are supposed to be the only prospective users. This group of users, following Tarp's (1995: 25) idea of categorising users according to priority, deserves more attention since it is at the level where linguistic and literary studies are so advanced. If this group is well-catered for, the impact of the dictionary will be passed to the other groups, namely the secondary and primary school students as some users in this category will graduate to teach at those levels while others will produce books which will be used at the same levels. While those groups categorised as lay people can use the dictionary, it should be noted that the communication that occurs within this group may not require the guidance of an LSP dictionary. However, in their interaction with semi-experts and experts, lay people, in the sense of Ndebele students at elementary levels, may need to be lexicographically assisted. The problem then becomes that of striking a balance between the needs and skills of this group of users with those of semi-experts and experts. An integrated user approach may be adopted to cater for the diverse needs and competence levels of different user groups within the user profile. This implies that while the NLLTD project may consider the diverse needs of these user groups, the main output may be directed to the users with compatible needs and skills. Thus, the main output may be directed at semi-experts and experts, that is, high school students, tertiary level students and experts. Then the lay people may be catered for by producing less sophisticated dictionaries and attaching them to school textbooks. This approach was reported by Taljard et al. (2007) in the planning of the Bilingual (English-Sotho) Explanatory Dictionary of Industrial Electronics (BEDIE). Thus while Ndebele students may enjoy lexicographic benefits by having linguistic and literary terms treated according to their needs and skills and conveniently attached to textbooks, the main NLLTD product may be directed at experts and semi-experts. This thesis will, however, work with both experts and semi-experts in mind. In the next section it considers the situations in which they may require lexicographic assistance.

4.3 User Situations for the NLLTD

The compilation of the NLLTD should at least pay attention to the following situations in respect of the user groups identified in the previous section:

- when a Ndebele lecturer or teacher is preparing for a class, he/she may need to increase his/her knowledge or ascertain some information about a concept, topic or term which he/she may need to apply to Ndebele linguistics or literature
- when a student of Ndebele linguistics or literature at any level is preparing for a class, group-work or presentation, he/she may need to gain knowledge about a concept or a topic or a term
- when a student is revising his/her notes after a class, he/she may need to learn more about a particular concept or topic encountered in a previous class
- when writing an assignment, a student may need to know about a term used or a concept referred to in the question or topic
- when preparing for exams, students may need to increase their knowledge of linguistic or literary concepts or topics
- when reading a play, novel or poem, a student of Ndebele literature may need to know more about the features of a particular type of drama, novel or poem in order to classify and understand it
- when preparing to write a literary commentary or criticism of a play, novel, poetry, a literary critic may need to gain more knowledge about some genre-specific aspects of the work under scrutiny
- when a student, lecturer, teacher or writer wants to compare some linguistic or literary aspects between Ndebele and English
- when a student, lecturer, teacher or author wants to compare between linguistic or literary LSP in Ndebele and English

In the situations such as the above, the respective potential dictionary users may increase their knowledge in the respective subject fields by referring to a dictionary, the NLLTD, provided the situations are considered in the dictionary conceptualisation plan and throughout the compilation process. This way, it is notable that the NLLTD may prove to be a useful tool in Ndebele linguistic and literary studies.

The NLLTD compilers should also take into account the following communication-oriented situations:

- when writing textbooks of Ndebele grammar or literary commentaries or critiques, authors (experts) may refer to the dictionary in order to get the correct term, variant and correct spelling for use
- when writing assignments, Ndebele students may refer to the dictionary so that they can get a correct term, variant or correct spelling for use
- when reading in a textbook, a student may refer to a dictionary so that he/she can confirm the meaning of a term used
- when marking students' work, lecturers or teachers may refer to the dictionary to confirm if a correct term, variant or spelling has been used

In the above situations, a dictionary of linguistic and literary terms will facilitate communication between two parties. However, it is notable that in some cases it facilitates knowledge growth in the user. Tarp (2005) argues that a complex dialectical relationship exists between cognitive and communication-related situations. He (Tarp 2005: 9) argues that:

Knowledge about the world cannot be stored without language, and linguistic skills are not sufficient in order to engage into a meaningful communication as this also presupposes general or specialised encyclopedic knowledge and both may be achieved fully or partially through the communication-related consultation whereas each of the two main types of knowledge-related consultations, in principle, only partially furnishes elements to be used in a meaningful communication.

Thus, a cognitive situation may prompt a dictionary consultation when there is need to gain knowledge. The consultation procedure on its own manifests itself in the form what Tarp (2005) refers to as “time-delayed text reception” between the lexicographer and the dictionary user, of which reference skills would be the user’s key communication tool in addition to linguistic competence in the explication language of the dictionary. Furthermore, the knowledge acquired through a cognitively-motivated dictionary consultation procedure may be stored in the brain for further use in text production or text

reception, both of which cannot be efficiently executed using linguistic skills only. The relationship is thus so complex that it does not suffice to explain it exhaustively. Instead, it suffices to give a concrete example using the NLLTD, the major reference for this study. A cognitive situation whereby a student may consult the dictionary to get introductory information about a linguistic topic in preparation for a class would not only be a time-delayed text reception as part of communication between the lexicographer and the dictionary user, rather it would also facilitate text reception when the lecturer presents the lecture for which the student had initially prepared. Thus, knowledge acquisition on its own becomes a preparatory procedure for communication, yet it also results from another communication process.

4.4 NLLTD User Needs

Since user needs are linked to specific situations of specific users who encounter specific problems in such situations, it is now possible to list some user needs in connection to the NLLTD. These needs are related to the information that users can retrieve from lexicographic data in order to solve their specific problems. The following are some of the needs which students, teachers, lecturers and authors may experience in both cognitive and communication related situations discussed in the previous section:

- general introductory information about linguistics
- general introductory information about literature
- special information about Ndebele literature
- special information about Ndebele linguistics
- linguistic and/or literary terminology in Ndebele
- information about spelling and variants of terms
- information about synonyms of terms
- meaning of terms

The above may be needed to increase the knowledge and facilitate communication in at least one of the situations described in 4.3. Anything that is not needed to solve at least one problem that arises in at least one of those situations, then, should not be considered

as a real need of any specific user group. The information on meaning, for instance, will increase the users' knowledge about a term, the concept it represents and will also facilitate both text production and text reception in Ndebele. Therefore, user needs are not merely the information that users expect to find in the dictionary but the information that solves their particular problems in specific situations. Some of the users' expectations regarding the provision of lexicographic data may not be regarded as part of the real needs if it does not solve any communication problems or facilitate knowledge development. This applies to the NLLTD as will be shown in Chapters Five and Six where not only user needs, but also their expectations will be discussed.

4.5 The NLLTD Lexicographic Functions

Given the definition of a lexicographic function given in the previous chapter as the assistance which a dictionary provides to a specific user who has encountered a specific problem in a specific situation, and also the user situations described in 4.2, the lexicographic functions of the NLLTD would accordingly be divided into cognitive and communicative functions. The cognitive functions are those that the NLLTD would provide to address the knowledge needs of the user while the communicative functions would be those that facilitate communication in specific situations. The NLLTD should serve the following functions in respect of the foregoing:

- providing introductory and general information about linguistics
- providing introductory and general information about literature
- providing information about the Ndebele language
- providing special information about Ndebele linguistics
- providing special information about Ndebele literature
- providing information about Ndebele linguistic and literary terminology
- providing, where necessary, comparative information about the linguistic and literary fields or concepts between Ndebele and English as well as other languages

The above functions can address the needs that users may have in the cognitive situations described above. It should be noted that one lexicographic function can be relevant in more than one situation and that some functions identified above can be linked to communication-oriented functions. Below are some of the communication-oriented functions which the NLLTD can address in view of the situations of specific user-groups and their corresponding needs:

- helping authors with native text production in the sense of textbooks of Ndebele linguistics or literature
- helping students with native text production in the sense of assignments, dissertations, class or seminar presentations
- helping students with native text reception in the sense of comprehension when reading textbooks of Ndebele linguistics or literature
- helping lecturers and teachers with native text reception when marking students' works in which terms or variants are used of which the markers might be uncertain

It is notable that the above functions represent the assistance that the prospective NLLTD may provide to ensure that effective communication occurs in the fields of Ndebele linguistics and literature using the Ndebele language. It may be noted that the NLLTD should emphasise strongly on the text production functions, followed by cognitive functions and then the text reception functions lastly. The reason for this is that the challenge at present is that of the unavailability of textbooks as noted in 1.1. While the textbooks are needed for pedagogical purposes, it should be clear that their production would be easy with a dictionary at hand. Text reception will also become important when text production and pedagogical activities are undertaken using the language. Therefore, the NLLTD would at best be compiled as a poly-functional dictionary in which the lexicographer has to strike an informed balance of the functions. Given those functions, the genuine purpose of the dictionary may then be described as the explanation of linguistic and literary concepts in Ndebele literature and linguistics using the Ndebele language.

4.6 The NLLTD Dictionary Typology

Dictionary typology becomes another important general theoretical factor which influences the lexicographic methods employed by lexicographers compiling particular dictionaries. According to Yong and Peng (2007: 67):

A proper typology will help clarify the lexicographic functions each type of dictionary is supposed to fulfill. By specifying dictionary functions, lexicographers will have a better understanding of the dictionary under construction and will be in a better position to make their lexicographic choices and arrive at the right decisions.

In a similar way, a study such as this one which explores lexicographic choices regarding lemma selection, lemma treatment and data presentation for a particular type of dictionary can arrive at informed conclusions through the guidance of clearly formulated lexicographic functions. Lexicographic functions which the NLLTD should consider satisfying have been highlighted in the previous section. The procedures that the compilers of the dictionary will adopt in relation to some of the functions will determine the final outlook of the NLLTD.

So far, it has been intimated that the NLLTD is an LSP dictionary and this will be done throughout this thesis. However, it should be noted that the identification of a dictionary as the NLLTD is primarily based on its subject matter, namely linguistic and literary terms. Thus the basis is mainly that of LSP lexicography being opposed to general purpose lexicography. Such absolute typological distinctions have been criticised by modern lexicographers, such as Tarp (2000), Bergenholtz and Tarp (2003), and Gouws (2007), who argue that dictionaries should always be classified according to their lexicographic functions, among other elements. Bergenholtz and Tarp (2003: 180) strongly criticise Wiegand's dichotomy of *Sprachlexikographie* (language lexicography) versus *Sachlexikographie* (special-field lexicography). However, it should be noted that while some traditional typological distinctions are likely to remain useful and may never be replaced for a long time, functions should still determine the final typological outlook of the dictionary. Lexicographers should not begin with dictionary types as guiding formulae for their subsequent compilation activities. Instead, they should compile dictionaries in such a way that they address specific problems encountered by specific

users in specific situations. Then the types of the dictionaries that will be produced become by-products of function-oriented lexicographic practice. Very often, such dictionaries will display features of different traditional typological classes thereby resulting in subtypologies or typological hybrids. The approach is recommended in as far as it permits the production of useful and user-friendly dictionaries, contrary to that of strictly modelling dictionaries around traditional typologies to the detriment of user needs.

In view of the above, the NLLTD also needs to be conceived not just as an LSP dictionary, as opposed to an LGP dictionary, but according to its functions. Firstly, by treating the vocabulary of literature and linguistics, it will be of course an LSP dictionary. It will also be a Ndebele dictionary, and for that matter, a monolingual one in that it will lemmatise and explain its lemmata in Ndebele. The provision of translation equivalents, as argued in Chapter Six, will not elevate it to a bilingual dictionary. The dictionary will also display a pedagogical dimension if it pursues, among other functions, that of providing encyclopaedic (linguistic and literary) knowledge to students, lecturers and authors. Notably, it will be a poly-functional dictionary should it pursue several functions listed in the previous section, which will be a noble procedure considering the scarcity of lexicographic products in Ndebele and the uncertain future of dictionary making following the end of the ALLEX project. Function-merging would clearly lead to the emergence of some features which conflict against those of basic typological distinctions. This should be done without any fears of breaking traditional lexicographic principles as it would be a procedure towards the achievement of lexicographic functions which the dictionary may serve in some of the situations identified in 4.5. In this regard, the advice given by Gouws and Prinsloo (2005: 55) that lexicographers should not be bound by existing typological models but should have the freedom to be innovative towards the fulfillment of the functions is worthwhile. A consequence of this inevitably becomes a typological hybrid dictionary and this will become apparent later on in the thesis, for example in Chapter Six where translation equivalents are noted to be bringing a bilingual dimension to an otherwise monolingual dictionary.

4.7 Conclusion

The main aim of this chapter was to create a foundation for the three subsequent and main chapters of the thesis. The main argument has been that each dictionary is a product of a specific lexicographic process which should be motivated by the need to satisfy the lexicographic needs of specific users in specific situations by means of lexicographic data. In that respect, some recommendations were made regarding the prospective users and lexicographic functions of the NLLTD. This was done in view of both the primary and secondary comprehensive lexicographic processes, which are constituted by the ALLEX project and ALRI activities. In the process, elements of the theory of organisation, as part of a general theory of lexicography (Wiegand 1984), were identified, which will also affect lexicographic activities such as lemma selection among others. Identifying the NLLTD as one of the prospective Ndebele LSP dictionaries ensures that while focusing on the unique features of the NLLTD which emanate from the subject fields for which it will be compiled, the study leads to a model which makes provision for common aspects which can be applied to other dictionaries which will be compiled for other subject fields.

CHAPTER FIVE: CONSIDERATIONS FOR LEMMA SELECTION

5.0 Introduction

This chapter considers lemma selection for LSP lexicography in Ndebele. The prospective NLLTD remains the special reference, but reference will also be made to other published LSP dictionaries. The issues that will be discussed regarding lemma selection notably cut across Section C and Section D of Wiegand's general theory of lexicography, namely the theory of lexicographical research on language and the theory of lexicographical description of language respectively. These include data collection and data processing, which fall in the former theoretical section, and then dictionary typology and the textual theory for lexicographical texts, which fall in the latter. Data collection and data processing are important as preparatory stages for lemma selection. On the other hand, dictionary typology and dictionary structure generally have implications for lemma selection.

While lemma selection for LSP dictionaries would also be characterised by issues that generally affect lexicographic practice as a whole, such as dictionary size, the lemmatisation of sub- and multi-lexical lexical items, the lexicographic treatment of synonyms as lemmata, and so on, it has its special requirements by virtue of focusing on specific subject fields. Its preparatory stages should reflect on the subject fields of which the LSPs would be the target of lexicographical treatment. Pedersen (1995) demonstrates that a systematic classification of the subject areas to be covered in a dictionary should precede and guide lemma selection. It has implications on the delimitation of the scope of a dictionary and hence lemma selection. The notion of LSP is also an issue that needs to be taken into account, considering that lemma selection debates for LSP dictionaries at times question the inclusion and/or exclusion of particular items due to their term status. Terminological considerations are critical for lexicographic communities such as Zimbabwe where key concepts in a number of subject fields have no terms or have several of them in African languages. The role of corpora in LSP lexicography also needs to be explored in this respect.

Bergenholtz and Tarp (1995: 98) have noted that metalexigraphy has generally given very little attention to lemma selection, together with equivalent selection, for LSP dictionaries. It may be counter argued that it is almost one and half a decade since the Danish scholars wrote that and that the advent of corpus lexicography has ushered a revolution in lemma selection for LSP dictionaries as well. However, the available literature indicates that the corpus revolution has so far not been fully realised in LSP lexicography, especially not in the African languages. As a result, various methods are still used and none of them may thus far be regarded as entirely efficient for lemma selection. This indicates that there is still need for theoretical guidance, as is the case with lexicography in general. One such guidance is offered by Gouws and Prinsloo (2005: 86) not particularly in view of LSP lexicography but lexicography in general when they state that:

The lemma selection of a dictionary should be done in accordance with the functions and type of that dictionary. It should be done in such a way that the selection of the lexicon falling within the scope of the dictionary is adequately reflected in the dictionary.

The above statement is a very important consideration for lemma selection regardless of dictionary type. Thus, while this chapter will consider those issues which, while affecting LSP lexicography, are general to lexicographic practice regardless of dictionary type, it will emphasise the need for lemma selection that is motivated by the fulfilment of lexicographic functions. The characterisation of the NLLTD users done in 4.2 should always be borne in mind, together with their specific situations and specific problems which may be solved by dictionary consultation. This is how the functionalist theory will be applied to wrap up the argument regarding the lemmatisation of various lexical items in the prospective NLLTD and other LSP dictionaries.

5.1 Subject Fields and Lemma Selection for LSP Dictionaries

This study regards dictionaries as containers of knowledge (McArthur 1986). The discussion of lemma selection in this chapter and the provision of data categories in the next chapter is basically a question of the types of knowledge that LSP dictionaries should provide for their users. This section goes a bit beyond dictionaries to explore how particular types of knowledge are arranged and how their arrangements can affect lemma

selection for LSP dictionaries. Focus is thus on the classification of knowledge, the result of which is the delimitation and distinction of knowledge constituting various subject fields, sub-fields, domains and disciplines. This is hoped to inform the systematic classification of subject fields recommended by Pedersen (1995), referred to previously. It appears that the systematic classification of subject fields for which LSP dictionaries are compiled and its impact on lemma selection has always been taken for granted.

On a more general note, the classification of knowledge into subject fields is a major pre-occupation of information science, librarianship and indexing. Lexicography shares with these activities the concern of organisation, storage, management, dissemination, acquisition and development of knowledge. By lexicographically handling specialised knowledge, LSP lexicography furthers the pursuit of knowledge development along classification lines established outside its scope. This way, it may be seen as benefiting since all the activities are concentrated on the LSPs of relevant subject fields, but it should also be noted that it somehow inherits and grapples with the general limitations of knowledge classification. The lexicographer should not take subject fields as given; instead he/she has to consider them in view of the prospective dictionary in mind, its target users and the lexicographic functions that it should serve. A very brief and general background of knowledge classification will be offered in order to highlight some problems it poses for LSP lexicography.

The existence of and the distinction between disciplines, domains, subject fields and sub-fields is based on the transformation of isolated and incoherent sense impressions of world knowledge into recognisable objects and recurring patterns through knowledge classification (Langridge 1992: 3). Classification in general facilitates everyday life (Langridge 1992: 4), as in the arrangement of household property and goods in a supermarket. When it becomes highly specialised and scientific, classification facilitates career and professional guidance, specialisation, high expertise, division of labour and high quality production. It “lies at the base of a well-managed life and occupation” (Maltby 1975: 15, quoted by Hunter 2000: 1). Maltby and Marcella (2000: 15) also note that it saves time, a key commodity which information seekers would want to spend

wisely and waste none of it pursuing that which is irrelevant to them in the context of globalisation. Time is also an important factor in lexicography, for both the lexicographer and dictionary user.

Besides the common concern of storing and disseminating knowledge and facilitating its access with minimum effort from information seekers which lexicography shares with information science as noted above, LSP lexicography in particular advances this concern within established subject fields. It is an advantage to the lexicographer that focus is on particular subject fields and also to the LSP dictionary user who, as a medical student making an enquiry in his/her field, for example, will not waste time on a general dictionary or an engineering dictionary if medical term dictionaries are available. However, if these benefits are to be exploited to the maximum, lexicographers need to exercise great caution when dealing with the subject fields by checking if they exhibit any general limitations of knowledge classification which may affect the scope of the dictionary and also in view of the prospective users, user situations and the functions which envisaged dictionaries can serve in those situations.

The worst flaw of knowledge classification which LSP lexicography inherits is, as summed up by Langridge (1992: 7) referring to Stanley Jackson, that “there is no unique, essential, natural or *a priori* system of classification that is alone adequate to the nature of reality”. Reference is also made to John Hospers who notes that while natural characteristics guide classification in the sense of inherent similarities and differences, “classes are man-made in the sense that the *act of classifying* is the work of human beings, depending on their interests and needs” (Langridge 1992: 8). Richard Dawkins (1991), referred to by Maltby and Marcella (2000: 25), concludes that “there is no single classification system which, in a world of perfect information would be universally agreed as the only correct classification”. Thus, the subject fields on whose language LSP dictionaries are based are not natural, unfixed and not unanimously agreed upon. For instance, while law is a subject field to some experts, to others it is an overall concept divisible into various subject fields which are themselves also divisible into sub-fields, as observed by Tarp (1995: 58). Some law dictionaries are regarded as multi-field

dictionaries in that they treat various branches of law, while others are regarded as sub-field dictionaries as they focus on particular branches of law such as constitutional law.

Maltby and Marcella (2000: 25) also note that “some topics are prone to the crossing of disciplines”, giving psychology as an example whose investigation spans many fields as the factor of human attitude and quirks pervades all subject areas. Law is also another example whose concepts affect other subject fields such as politics, sociology and commerce. Legal terms are entered and defined in many commerce dictionaries, particularly business law.

Another consideration worth noting for the classification of knowledge into subject areas is the impact of cultural factors. Langridge (1992: 22) notes that different cultures and different historical epochs contribute to the challenges of classifying knowledge into fixed and agreeable classes. Tarp (1995: 60-61) distinguishes between culture-dependent fields such as politics, economics, law, literature and music on one hand and culture-independent fields such as medicine, physics and chemistry. Culture-independent implies that the manifestation of phenomena or their knowledge is universally the same. However, Tomaszczyk (1984) suggests that:

... the boundary between culture-bound and universal is a very fuzzy one, ... in fact there is no such a thing as non-culture-specific or universal vocabulary...culture specificity is a matter of degree (Tomaszczyk 1984: 289).

This means that lexicographers have to be cautious when dealing with the so-called culture-independent subject fields. For instance, in chemistry or medicine, it would be necessary to check if cultural practices and their processes do not impact on the overall perception of chemical or medical knowledge whose signification may be carried in LSP elements which are not known universally, yet relevant in a particular locality. If any, such LSP elements definitely need to be included in the dictionary for the immediate benefit of the users.

From the foregoing, it should be clear, therefore, that the subject fields for which LSP dictionaries are compiled need not to be taken for granted because of the challenges and

flaws of knowledge classification which result in them. The challenges however do not dismiss the advantages offered by knowledge classification. “While subject specialists ... sometimes quarrel over exactly what are the best subdivisions ... all agree that such a systematic approach is essential to help enquirers move through a mass of material in order to find items most relevant to them” (Maltby and Marcella 2000: 22). The truth in this statement is not limited to librarianship and information science, but it applies to the entirety of life in which order has to be secured and LSP lexicography is not an exception. In that regard, Tarp (1995: 58) argues that the problem of classification is a minor one for the lexicographer. In his view, what is important is working out the scope and prospects of linking up different subject fields in the same dictionary. However, since working out the scope and prospects of linking up different subject fields in a dictionary is critical for LSP lexicography, then the lexicographer has to contend with such problems. Once the subject fields are taken for granted, the flaws of subject classification can affect the scope of the dictionary and hence contribute to its failure in meeting the needs of the target users. The attention given to the systematic classification of subject fields, and the distinction between external subject classification, internal subject classification and terminological classification made by Pedersen (1995: 83-90) clearly indicates that the general classification of knowledge becomes a concern for LSP lexicographers as an important preparatory stage to lemma selection. The following three subsections give brief discussions of the various stages of systematic classification of subject fields for lexicographic work.

5.1.1 An External Subject Classification

According to Pedersen (1995: 83), external subject classification is “a systematic arrangement of the subject field in question, delimiting this in relation to adjacent fields, with the purpose of identifying the material which is to form the empirical basis of the dictionary”. In short, external subject classification means defining and delimiting the subject field for a particular LSP dictionary. This facilitates “exclusion of redundant material ... and inclusion of all the material that is required” (Pedersen 1995: 83).

It has already been noted that there is no universal consensus on the boundaries of subject areas due to a number of factors. On its own, this is a challenge on working out the scope of an LSP dictionary. The drawing up of bibliographies of relevant subject fields using libraries' universal decimal classification, existing special bibliographies, use of on-line search terms in the databases of special libraries and finally an overview of subject fields in question as reflected in contents pages of specialised textbooks are recommended approaches (Pedersen 1995: 84). Pedersen (1995: 84) also advises that the focus should be on general works which usually provide overall coverage of subject fields. These steps should give the lexicographer a clear general overview of what constitute the subject field for which an LSP dictionary is planned, distinguishing it clearly from other adjacent fields. This would facilitate the conceptualisation of the scope of the dictionary and the identification of a dictionary basis. Sub-sections 5.1.4.1 and 5.1.5.1 attempt to reflect on the manner in which some published dictionaries have approached external classification for the linguistic and literary fields respectively.

5.1.2 An Internal Subject Classification

An internal subject classification is an overview of the subject field which focuses mainly on its sub-fields, if any, its concepts and themes. Its main purpose is to “ensure systematic representation of the subject field in the dictionary” (Pedersen 1995: 85). Hierarchical structures based on uniform principles such as table of contents of textbooks or tree diagrams are suggested as they display logical relations of super-/subordination vertically or co-ordination horizontally. However, Pedersen (1995: 86) also warns that not all fields can be hierarchically structured to show such relations. Thus classification in some fields would at best be thematic. For this activity, the lexicographer has to be aware and critical of topics which overlap across subject fields. According to Langridge (1992: 19), this is the biggest prejudice against classification in arts, compounded by the existence of “traditions, branches and points of view” such that one has to consider the arts and also writings about them in different epochs and societies (Langridge 1992: 59). The classification of the linguistic and literary fields attempted in 5.1.4.2 and 5.1.5.2 should consider both the ideas given by Pedersen in respect of external and internal classification.

5.1.3 A Terminological Classification

The systematic classification of a subject field is completed by a terminological classification. According to Pedersen (1995: 89), this is a systematic listing of the LSP terminology of the subject field in question whose purpose is to ensure that all LSP terms are included in the dictionary. Therefore, terminological classification becomes an important part of a theory of lemma selection for LSP lexicography as it ensures that the activity is not incidental but systematic. This becomes one of the greatest challenges for LSP lexicography in communities such as the Ndebele where terminology is not developed. Consequently, while both an external and internal classification of both the linguistic and literary fields can be done for the NLLTD as shown in 5.1.4, terminological classification is made impossible by a number of issues which are discussed in 5.2.

5.1.4 A Systematic Classification for the NLLTD

In view of the discussions in the preceding subsection, this section attempts a systematic classification of the linguistic and literary fields which have to be covered by the NLLTD. The discussion of these fields in a general way takes cognisance of their status at an international level. It also considers some LSP dictionaries that have covered them or their sub-fields. When it comes to their discussions in view of the NLLTD, trends in the teaching and research of the subjects in Zimbabwe and Ndebele in particular take the centre-stage.

5.1.4.1 The Linguistic Field in General and Recommendations for the NLLTD

Linguistics is generally defined as the scientific study of language. It encompasses a wide range of component disciplines and associated activities, some of which use the name *linguistics* to announce their commitment to the serious study of language or languages. However, there are other unequivocal branches of linguistics which do not announce their commitment by bearing the label 'linguistics' such as phonology, morphology, semantics and syntax. Such sub-fields do not present problems for external subject classification as the general framework of linguistics covers them and most dictionaries of linguistic terms list and define them. The label is usually carried by some of the problematic ones, the so-

called applied fields of linguistics such as sociolinguistics, psycholinguistics, ethnolinguistics and computational linguistics among others. However, as they bear the name, external subject classification of linguistics usually encapsulates them and their inclusion in dictionaries of linguistic terms depends on whether the internal subject classification finds them relevant in view of prevailing trends in linguistic research and studies in addition to other lexicographic considerations.

There are yet others like translation and lexicography which do not even bear the label linguistics and on whose subject matter, which is not always language, linguistic theories and methods impact minimally. Lexicography and translation are also seen as independent disciplines which no longer are subsections of linguistics. In various publications lexicographers like Wiegand, Bergenholtz, Tarp and Gouws have argued in favour of this approach to lexicography (see Chapter Three). Probably their inclusion in dictionaries of linguistics would depend on whether the dictionaries are maximising or minimising, but the inclusion of some of their key terms would be difficult. Thus, one cannot be positive of finding highly specialised lexicographical terms in all dictionaries of linguistics even if the term *lexicography* is itself lemmatised. The exclusion of the terms for the fields themselves can also be justified by means of both external and internal subject classification. Thus, before proposing systematic subject classification of the linguistic component of the NLLTD, a consideration of some dictionaries of linguistics may offer some useful insights.

As far as culture-dependency is concerned, linguistics may be seen as a culture-independent field in that it is defined as a science. However, with its branches such as sociolinguistics and psycholinguistics and also the descriptive approach which focuses on the linguistics of particular languages, it becomes culture-dependent or maybe language-specific. Dictionaries of linguistic terms are to a large degree shaped by the sociolinguistics of the society for which they are compiled and these will determine the user needs and hence lemma selection.

Crystal's (1991) *A Dictionary of Linguistics and Phonetics* becomes one interesting case with regard to external and internal subject classification. In some circles it would appear as a given that a dictionary of linguistics would lemmatise phonetic terms. However, Crystal (1991: vi) states that he faced the challenge of "how to deal with the enquiries from the two kinds of consumers of linguistic and phonetic terms". Aware of the thin line of distinction between the two and that "there are too many who do not see the divide between linguistics and phonetics being as great as this label (and the title of the dictionary) suggests", Crystal (1991: 294) explains that there are two facets of phonetics; the primary one which is non-linguistic and the linguistic one which is at times covered under phonology. However, there is a clear inconsistency in the representation of the supposed two fields and a clear bias towards linguistics as reference is not made to phonetics in a number of instances in which the dictionary tends to be given a single-field character. For instance, he says:

The present dictionary is, in the first instance, an attempt to meet the popular demand for information about linguistic terms, pending the fuller, academic evaluation of the subject's terminology which one day may come (Crystal 1991: vi).

There are also several instances where reference is made to linguists and students of linguistics but not to phoneticians or students of phonetics as users of the dictionary. The repeated bias towards linguistics gives two paradoxical impressions. Firstly, one would assume that since phonetics is one level of linguistic analysis, the continued reference to linguistic terms, linguists and linguistic students means that phonetic terms are also linguistic terms as well. This then contradicts the title of the dictionary and the compiler's efforts to distinguish between linguistics and phonetics or to give the dictionary a bi-field character. On the other hand, one would be compelled to think that the dictionary was supposed to be a single-field dictionary, so justified by the clear bias towards linguistics, but when the compiler realised that its "terminology (phonetics) is so pervasive that it is a priority for special attention" (Crystal 1991: vi), he decided to include non-linguistic phonetic terms. Second-thought decisions would normally be overshadowed by the principal ideas on the dictionary conceptualisation stage, hence Crystal's bias against phonetics as a field covered in his dictionary while the title makes it equal to linguistics.

However, dictionaries can be better evaluated according to the extent to which they serve their users. In spite of the above observations, the popularity of Crystal's dictionary with students of African languages and linguistics at the University of Zimbabwe means that it is found useful not only by students but by lecturers who recommend books and references. It is, however, difficult for this researcher to measure its use among phoneticians as phonetics is an undeveloped field outside linguistics in Zimbabwe.

The DDU is another useful case regarding the classification of the linguistic field and its coverage in dictionaries of linguistic terms. All having been equal, the NLLTD should have been compiled simultaneously with the DDU and probably sharing the same instruction book as did the general monolingual and the musical terms dictionaries. The NLLTD is still most likely going to adopt editorial policies from the DDU, as indicated in Chapter Two and Chapter Four.

There appears to be no systematic presentation of the linguistic field in the DDU and neither are there clear statements in this regard. This on its own is unfortunate as Tarp (1995: 154) indicates that it is crucial to do so, most conveniently in the front-matter, for the benefit of the lexicographer and the user. However, there are statements by the editorial in the blurb and also by the writer of the DDU foreword which are intended for this purpose. The editorial states that the dictionary intends to help “*vadzidzi nevadzidzisi vose veChiShona*” (all Shona students and teachers/lecturers). It is further stated that the dictionary contains “*mazwi ose anoshandiswa pakudzidzisa kwedudziramutauro ... pamatanho ese edzidzo*” (all terms used in linguistic ... studies at all levels). In the foreword to the DDU, Chighidi hails the publication of the dictionary saying:

Nokuvapo kweduramazwi iri, vadzidzi navadzidzisi navamwewo zwavo vava kukwanisa kutaura chipi nechipi chavanoda muzvidzidzo zvavo neChiShona chavo

(With this dictionary, students, teachers/lecturers and everybody else will be able to talk about anything they want to talk about in their (linguistic and literary) studies using their Shona language). (in Chimhundu and Chabata 2007: vi)

What is interesting to note is that the definition of *dudziramutauro* (linguistics) only recognises phonetics, phonology, morphology, semantics and syntax as branches of

linguistics and excludes sociolinguistics, psycholinguistics and other applied linguistic fields which are not only offered by various university departments of linguistics but also to Shona students from the departments of African languages. Terms for those fields excluded in the definition of *dudziramutauro* (linguistics), which is quite long, as its branches are subsequently not represented as lemmata in the dictionary. It may be argued that this is a result of a lack of a clear systematic classification of subject fields covered by LSP dictionaries. The statements comprising the cover entries and some front matter texts do not provide adequate advice to the users on what to and not to expect in the dictionary.

The NLLTD should capture firstly linguistic research as an international subject, but it should give adequate focus on its academic position in Ndebele in order to help its users. A complete linguistic study of the Ndebele language includes a number of university courses which cover almost all the basic branches of linguistics namely phonology, morphology, semantics and syntax. There are also courses in the applied linguistic fields such as sociolinguistics and language planning. While the major approach to these courses is mainly descriptive linguistics, since students study various aspects of Ndebele, it is the approach of general linguistics which is adopted when students introducing students to the study of human language as a phenomenon. It is at this stage where linguistic phonetics is studied before students go on to study Ndebele phonology. Comparative and contrastive approaches are used in the study of the language in relation to others as in the Nguni Dialects course offered to final year undergraduate students. Similar approaches are notable in Masters' level courses such as Comparative Bantu Linguistics, in which the diachronic and synchronic dimensions are noted.

An external subject classification for linguistics as a subject field to be represented in the NLLTD should result in a scope that encompasses linguistic research and study of the Ndebele language in view of the courses mentioned in the previous paragraph. This requires the use of very general textbooks in the country's university departments of African languages and linguistics. Such general texts will provide a broad framework within which linguistic studies outlined above can be contextualised. In short, what is

meant is that the external classification of linguistics for the NLLTD should be able to capture all the linguistic areas of interests pursued in Ndebele but that should be done within the broader and universal parameters of what linguistics is. That way, the prioritised users of the NLLTD who are semi-experts and experts respectively will benefit.

When a clear outline of what linguistics is, has been made with the help of general textbooks, the internal classification then has to start with particular branches of linguistics which are of interest to Ndebele linguists. Below is a tree diagram representing the general linguistic areas of interest in Ndebele.

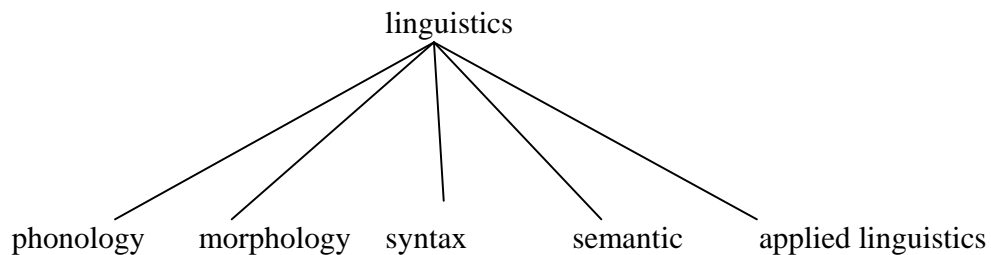


Fig. 2: Areas of interest in the linguistic study of Ndebele

As noted in 5.1.2, hierarchical diagrams such as the above display relationships of super- and subordination vertically and co-ordination horizontally. Thus, from Fig.1, phonology, morphology, syntax, semantics and applied linguistics are at the same level as branches of linguistics. However, it should be noted that linguistics is one field in which such hierarchies are difficult to develop further in the sense that not all concepts can be understood as parts of other superordinate concepts. For example, phonology can be further split in segmental and supra-segmental, but any sub-division further than that will show the futility of hierarchically structuring the field. Several key concepts will be excluded from the classification. The internal classification of the linguistic field in view of the NLLTD therefore has to be largely thematic. The table below demonstrates this approach in a systematic presentation of grammatical categories in Ndebele.

1. Grammar (uhlelo)
 - 1.1 Substantives (osobizo)
 - 1.1.1 Noun (ibizo)
 - 1.1.2 Pronoun (isabizwana)
 - 1.2 Qualifiers (izichasiso)
 - 1.2.1 Relative Adjective (isiphawulo)
 - 1.2.2 Relative descriptive (isibaluli)
 - 1.2.3 Possessive (ubumnini)
 - 1.2.4 Quantitative (inani)
 - 1.3 Predicates (izilandiso)
 - 1.3.1 Verb (isenzo)
 - 1.3.2 Copulative (isibanjalo)
 - 1.4 Adverbs (izandiso)
 - 1.1 Adverb of place (isandiso sendawo)
 - 1.2 Adverb of time (isandiso sesikhathi)
 - 1.3 Adverb of manner (isandiso sesimo) etc.

Table 4: Grammatical categories in Ndebele

If hierarchical relationships were to be used exclusively in understanding each grammatical category in the above table, there would be conflict between using grammatical functions or grammatical formatives in classifying substantives, for instance. Substantives share grammatical functions and grammatical formatives, but if grammatical constructions were to be used, it would be noted that some constructions are shared with other grammatical categories. Thus, grammatical categories cannot be fully understood in terms of either their grammatical functions or their grammatical constructions exclusively. In a thematic classification, it is possible, however, to capture both the functional and structural features of all categories at once and at the same time show that some features are not exclusive to a particular category. That way, a

representation of the linguistic field may more or less be achieved for the NLLTD. Such an achievement is not an end in itself but a significant one in the pursuit of cognitive functions such as the provision of special information about subject fields.

5.1.4.2 The Literary Field in General and recommendations for the NLLTD

The subject field for dictionaries or glossaries of literary terms is basically literature. However, the definition of *literature* seems problematic. The term has not been defined and theorised to unanimous agreement. According to Fowler (1990: 11), the plethora of supposed defining criteria that have been offered are conflicting, suggesting that “the definition of literature is a fruitless quest”. Most popular definitions of *literature* as the activity dealing with the production of books emphasise the imaginative aspect and high quality of the books which are referred to as literariness. However, Fowler (1990: 8) notes that “literature in the sense of the profession of writing was not specialised to the production of any particular kind of book, certainly not necessarily ‘high’ or ‘imaginative’...”. Thus a cautious avoidance of ‘literature’ in preference of the ‘literary field’ in more or less the same way as Fowler (1990: 3) prefers ‘literary studies’, is made in many instances in this thesis in view of ‘literary’ as a “derived adjective of literature, with the same neutral sense of literate” (Sutherland 1990). The conceptually related noun ‘literacy’ is about:

... what people read and what they make of their reading ... how people engaged with text ... (and) involves a package of skills, including the elementary ability to read and write ...”. (Cressy 1990: 837).

While it is being accepted that most dictionaries of literary terms cover literature as their subject field, what is regrettable is that they are biased towards ‘literariness’ as the defining feature of literature. With literature being a highly culture-dependent field, such an approach tends to exclude some aspects of literature not only from the dictionary but from the field. What makes it worse is that no attempt is given to highlight the external classification in a way that explains the exclusion in a broad field where inclusion has to be clearly justified. Other lexicographers are, however, aware of the challenges that the field poses and therefore try to define the scope of their dictionaries. In the introduction of *The Concise Oxford Dictionary of Literary Terms*, the following disclaimer is made:

This is a book of hard words ... It cannot purport to fulfil the functions of a balanced expository guide to literary criticism or literary concepts; nor does it attempt to catalogue the entire body of literary terms in use. It offers instead to clarify those thousand terms that are most likely to cause the student or general reader some doubt or bafflement in the context of literary criticism and other discussion of literary works (Baldick 1990: xi).

In spite of its threatening and promising exposition – threatening in the sense of claiming that it contains hard words yet their hardness might be objective and promising in the sense that it provides solutions to the hard words – the introduction is quite useful as it implicitly identifies ‘literary criticism’ as its focus. Fowler (1990) notes that literature has several elements which make it inadequate for compilers of literary terms not to identify the main areas of the subject field represented in the dictionary. Fowler (1990) identifies the following as key elements of literary studies:

- Literature and history
- Poetry
- Drama
- Novel
- Criticism
- Production and reception
- Contexts
- Perspectives

The listed elements have been researched differently by different scholars with different backgrounds. As a result different literary theories have emerged with their diverse terminologies. Without giving an overview or a systematic classification of the literary field, it would be dishonest therefore for lexicographers to claim that a two-hundred page dictionary contains all literary and linguistic terms which cover the needs of diverse users who are studying either of the fields at different levels. Such a dictionary-for-all is usually of poor quality.

In light of the foregoing, a dictionary of literary terms such as the NLLTD might be found to be irrelevant to its purported users by virtue of its scope. An external subject field classification for the NLLTD should delimit its scope in view of the elements of literature identified above and particularly consider literature in view of Ndebele history and culture. Oral literature is an important part of literary traditions in Ndebele and other African societies and its influence remains apparent in the development of modern Ndebele literature. Therefore, while the use of English literary commentaries and dictionaries would be advised, the need to accommodate traditional or oral literary traditions and compositions cannot be overemphasised. This may not be the case in Western societies where the notion of literature seems to be seen in a very restricted sense. If this important factor is considered as part of the external classification, the internal classification will subsequently be informed and the representation of the literary field will be balanced.

5.2 The Notion of LSP and Lemma Selection for LSP Lexicography

Before lemma selection can commence, there is need for lexicographers to understand what is really meant by LSP. Gläser (2000) enquires whether or not LSP dictionaries should lemmatise “professional jargon and slang as well”. Addressing such questions, Tarp (2000) argues that discussions of what to lemmatise in respect of terms, professional jargon, slang or whatever form of lexical items, are irrelevant as long as they are divorced from user needs and lexicographic functions. It may be noted that dilemmas regarding lemmatisation may not be solved if LSP lexicographers do not have a clear notion of LSP and also the guidance of lexicographic functions for the intended dictionary.

According to the *Longman Dictionary of Language Teaching and Linguistics* (2nd ed.), LSP refers to “second or foreign language used for particular and restricted types of communication... (e.g. for medical reports, scientific writing, air-traffic control) and which contain lexical, grammatical, and other linguistic features which are different from ordinary language” (Richards et al 1992: 205). Hartmann and James (1998: 81) define LSP as “the variety of the language (‘special language’) used by experts in a particular subject field”. What can be underlined from the two definitions is that LSP is used in

specialised communication and in that respect is different from general language, the so-called LGP. However, it is important to note that both definitions are inadequate and may be misleading as far as LSP lexicography is concerned. Firstly, LSP is not necessarily a second or foreign language as the first definition suggests. Secondly, contrary to the second definition, not only experts use LSP. A better understanding is provided by Sager (1996) when she states that:

Besides containing a large number of items which are endowed with the property of special reference, the lexicon of a special language also contains items of general reference which do not usually seem to be specific to any discipline or disciplines and whose referential properties are uniformly vague or generalised. The items which are characterised by special reference within a discipline are 'terms' of that discipline, and collectively they form its 'terminology'... (Sager 1996: 19).

LSP simply refers to the language used in specialised texts. This language can either be the native language or a foreign language. It can also be used by a variety of language users ranging from lay people, semi-experts and experts and its degree of specialty would depend on the parties involved in a communication process. No discrimination is made between terms as LSP elements and common words as non-LSP elements. Thus LSP refers to the entire specialised text. For LSP lexicography, it is then possible when considering lemma selection to target the needs of at least one of these user-groups. On that basis, Bergenholtz (1995) suggests a characterisation of texts in which LSP may be used. The following texts are identified:

- From expert to expert (expert language)
- From expert to semi-expert (the LSP of textbooks, etc.)
- From semi-expert to semi-expert (jargon and the language used in texts by experts from related areas)
- From expert to layman (the language used in popularised texts)
- From semi-expert to layman (the language used in popularised texts) (Bergenholtz 1995: 19)

Based on such a distinction, Bergenholtz (1995: 20) argues that it should be possible to distinguish between dictionaries intended for communication between different user groups. From this it follows that a meaningful argument can be made for the inclusion or

exclusion of a particular item from a dictionary considering the characteristics of the users involved and their needs. Consider the justification of *njodzi* (accident), *-jaira* (get accustomed to), *-bwaira* (blink), *chiso* (face), *-pfira* (spit) and *chiguwe* (toe) in a biomedical dictionary, or *ibhawa* (beerhall), *umkhumbi* (circular arrangement of people), and *gamburabota* (thumb), *munongedzo* (index finger) and *kasiyanwa* (little finger) in a musical terms dictionary whose users are all native language speakers. Thus the argument is not that the lemmata are common words, jargon or not terms, but that no native speaker, regardless of being an expert or a layman can look up such lemmata in an LSP dictionary. Therefore, the NLLTD and prospective LSP dictionaries in Ndebele should not worry too much about term status but rather whether the inclusion of an item as a lemma can potentially serve any specific need of a specific user-group in specific situations.

5.2.1 Terminological Challenges for LSP Lexicography in Ndebele

Since terms constitute the core of LSP, LSP lexicography in some communities such as Ndebele has as part of its challenges for lemma selection the fact that terms need to be evaluated, created and standardised. However, this should not be done as a way of discriminating non-terms as non-LSP elements but as a way of prioritising the needs of specific user groups according to lexicographic functions. For example, for a dictionary intended to be used by experts, the evaluation and standardisation will ensure that non-LSP terms will not be entered because they do not constitute the data relevant in the realisation of an expert to expert interaction.

As noted in 4.2, it is of extreme importance to address the needs of experts and semi-experts through the NLLTD in order to generally improve Ndebele linguistic and literary studies. For these groups of users, LSP terms are important. Therefore the preparatory and compilation stages of the dictionary have to be fully based on the terminological situation of the language. Here the Ndebele terminological situation is considered, based on Hadebe (2006). Hadebe explores the general problems of terminology in Ndebele by studying term-creation patterns, their underlying principles and the factors that have affected terminology in general. There are no ideological and theoretical differences

between Hadebe's study and the present one. The differences should be seen to be of methodological nature as Hadebe's study was based on a general dictionary, the ISN, while this one focuses on LSP lexicography. This study recognises the terminological problems noted by Hadebe when he says:

The standardisation of ... terminology is ... not a major problem now in Ndebele. The main problem is lack of terms for several concepts in the field(s) (Hadebe 2006: 156).

From this statement, two problems are discernible, namely the unstandardised terminology and the general lack of terms. According to Hadebe, the former is not as urgent as the latter. As far as this study is concerned, the two problems are so connected that what is required is a complete programme which will enhance the standardisation of the available terms, no-matter how few they are, and at the same time facilitate term-creation for those concepts that are without terms using similar principles. Approaching the problems as if they are independent would result in terms being created in the same ad hoc manner in which the available ones were created. As long as there is a proliferation of unstandardised terms, communication is just as difficult as it is when terms are unavailable.

Paying attention to the problem of lack of terms from the ISN editorial perspective, Hadebe points out:

The lack of technical terms in Ndebele is a problem that the compilers of the corpus (and the dictionary) could not have solved (Hadebe 2006: 75).

It is mainly the focus of Hadebe's research and that of his dictionary team which justifies this position. For them, "the dictionary is a general dictionary and the technical terms should be kept to a minimum" (Hadebe 2006: 197). However, LSP lexicographers have terms for various subject fields as their primary subjects of lexicographical treatment. Whatever problems exist in respect of terminology become part of the challenges they should address in order to arrive at principled lemma inclusion. Otherwise there would be nothing to select and to include in the dictionary if they shy away from the terminological problems, particularly for the needs of experts. This therefore requires some basic

understanding of the theory and principles of terminology as well as assistance from field experts on term-evaluation and term-creation before lemma selection commences.

Hadebe (2006) evaluates terms from a number of fields using Gilreath's (1993) term-evaluation criteria called the Onometric Battery. The Onometric Battery consists of seventeen principles packaged into seven categories which are some basic elements of terminology. It is a thorough method of assessing terms, particularly if a term could be measured against all the relevant principles, but doing so could prove to be cumbersome. Hadebe (2006: 150) picks only six principles from four categories with other categories having no principle applied. While those chosen were found to be relevant, the application of principles such as form correctness, etymological purity, inflectability and series uniformity which Hadebe left out would probably have consolidated some of his views on some terms and standardisation in general. For instance, form correctness would link well with the discussion of orthography which Hadebe (2006) discusses in the subsequent chapter as the principle warns against orthographic errors such as misspellings and wrong variants, which are equally problematic in Ndebele. An alternative would be to apply Sager's (1996) criterion of assessing terms along the cognitive, linguistic and communicative dimensions which underlie the principles of terminology. Such an approach is elaborated in Alberts (1999) and shows that terms can be evaluated in an equally effective but less cumbersome way. This is important particularly for the LSP lexicographers who have to handle large volumes of LSP terms compared to the ISN compilers.

5.2.2 Linguistic and Literary Terms in Ndebele

Linguistic and literary terms have been evaluated by Hadebe (2006) alongside terms from the legal field and the natural sciences. It would be noted that the general terminological situation of Ndebele informs the envisaged general framework for LSP lexicography in the language. This subsection focuses on linguistic and literary terms as lemma candidates in the NLLTD, the major reference for this study. However, observations made on Ndebele terms from other fields as well as other linguistic communities are also

considered as important factors to be considered for lemma selection for LSP lexicography in general.

Zondo's glossary becomes an important addition to Hadebe's (2006) study. It contains more terms and attempts a lexicographic treatment of the terms by providing short explanations in addition to English equivalents. The glossary was presented to ALRI in 2004 for consideration as a major component for the NLLTD dictionary basis and has been used at a number of institutions. With Zondo's terms in the offing, the situation is now different from that of Hadebe's study and the standardisation of linguistic and literary terms is now a problem which the NLLTD compilers should face.

The present researcher also undertook a participant and observer role in some Ndebele lectures paying particular attention to the use of terms by students and their lecturers. The "choices they make, the constraints they encounter in using language ..., and the effects their use of language has on the other participants in an act of communication" (Crystal 1991: 301) constitute an important part of the communicative dimension of terminology. Questionnaire 1 and a focus-group discussion with lexicography students at the University of Zimbabwe also solicited views and attitudes towards some linguistic and literary terms as lemma candidates in the NLLTD.

Besides the seemingly sophisticated term-evaluation criteria performed by Hadebe (2006) and discussed in the previous subsection, debates on term-creation in African language communities boil down to the question of whether or not terms should be borrowed together with the specialised knowledge they designate from those communities which are already some steps ahead such as Europe (Carstens 1999, Cluver 1980, Dlodlo 1999, El-Sayed 1984, Hadebe 2006, Mphahlele 2004, Msimang 2000, Tsakona 2007). Transliteration is often pitted against indigenous coining as term-creation strategies and while the debates are held in view of the general theory of terminology and its principles, the dialectics of language purism and language modernisation seem to conflict. It seems difficult to make absolute statements regarding the best term-creation strategies for African languages. In the case of Ndebele, Hadebe (2006) discusses linguistic and literary

terms separately to conclude that they are generally created differently. He recommends literary terms for having been coined from existing indigenous words without either transliteration or literal translation. However, some terms that have been collected and found to be in use in this research such as *inoveli* from ‘novel’, *ivesi* from ‘verse’, *ilithritsha* from ‘literature’ and *iphoyemu* from ‘poem’ are created by transliteration while terms such as *umlingiswa oyindingilizi* for ‘round/dynamic character’ and its opposite *umlingiswa oyisicapha* for ‘flat character’ involve literal translation. What is interesting to note, is that Hadebe (2006: 167) is not against transliteration as he notes that measurement terms in Ndebele such as *imitha* for ‘metre’, *isentimitha* for ‘centimetre’ “are good terms, even though they are not indigenous terms”. Therefore, probably what is needed is a principle which clarifies the circumstances under which particular term-creation strategies can be employed. Mphahlele (2004) attempts such a principle.

As far as students of Ndebele lexicography involved in the focus-group discussion are concerned, there seems to be no unanimity on whether linguistic and literary terms in Ndebele should be transliterated or coined. Some interesting observations were made regarding both methods of term-creation. Some students who prefer indigenous coinages are not aware that in the linguistic field to be particular, most terms have been borrowed wholesale from Zulu. Some of the terms such as *indlela* for ‘mood’, *impambosi* for ‘verbal extensions’ and *inkathi* for ‘tense’ are not only problematic in Ndebele but also in Zulu (Hadebe 2006, Msimang 2000). Those who prefer transliterations claim cognitive appropriateness, more or less like Omar’s argument in El-Sayed (1984) that students newly introduced to modern linguistic concepts were more impressed and attracted by transliterations and that they are “more readily accepted, remembered and used once a clear interpretation has been provided by the instructor” (El-Sayed 1984: 334). Little is it realised that it is only to somebody who has been taught in the original language from which a term is borrowed that cognitive sense can be established; otherwise in the target language such terms are meaningless to beginners (El-Sayed 1984: 334, Hadebe 2006: 152, Mphahlele 2004: 347). Given these observations, it is clear that a lot still needs to be done in the area of terminology in African languages such as Ndebele for LSP

lexicography to develop as Sager (1984: 318) argues that the work on terminology can be considered as preparatory to LSP lexicography.

Because Zondo's glossary has been the major latest development after Hadebe's research and also for reasons stated earlier on, it has been given more attention than those collected from Teachers' Colleges and also evaluated by Hadebe. Table 5 below contains a sample of Zondo's terms.

English Term	Ndebele term (literal meaning)
linguistics	inhlaziyoizindimi (analysis of languages)/ilingwistika
macro-linguistics	ilingwistikabanzi (broad linguistics)
micro-linguistics	ilingwistikanzulu
oral literature	ilithritsha yomlomo (oral literature)
etymology	imbalimabala (history of words)
comedy	imvezansini (that which causes laughter)
tragicomedy	imvezalusizinsini (that which brings sorrow and then laughter)
mood	indlela (way/road/method)
phonology	ingcwengazinhlamvu (analysis of phonemes)/ifonoloji
phonetics	inhlelamisindo (system of sounds)/ifonethika
morphology	inhlelakwakhiwa (system of construction)/imofoloji
practical criticism	inhlaziyoimqoka (real analysis)
tense	inkathi (time)
lateral sound	umsindomacaleni (sound produced at the sides)
lingua franca	ulimi lokuzwana (the language of understanding each other)
theory	umcabangosichasiselo (an idea that seeks to explain)
plot	umgomo (the essence)
cardinal vowel	unkamisamqoka (main vowel)
possessive	unobumnini (that of belonging)
semantics	unokutsho (that of saying/meaning)
relative adjective	unokuphawula (that of describing)

Table 5: A sample of Ndebele linguistic and literary terms from Zondo's glossary.

A few notes can be made regarding the Zondo's terms given in the Table 5. The terms consist mainly of neologisms. There are some that are created from Ndebele words such as *inhlelazindimi* from *in-* (class 9 prefix) plus *-hlela* (arrange) plus *izindimi* (languages) and *imbalimabala* from *imbali* (history) plus *amabala* (words). There are others where a transliterated English term is qualified in order to describe the concept clearly such as

ilingwistikabanzi (macro-linguistics), *ilingwistikanzulu* (micro-linguistics) and *ilithritsha yomlomo* (oral literature). These are modifications on transliteration which Zondo also uses in creating terms such as *ilingwistika*, *ifonethika* and *imofoloji*. It is unfortunately interesting that while a Ndebele coinage has been provided for ‘linguistics’, that coinage cannot be inflected to create coinages for ‘macrolinguistics’ and ‘micro-linguistics’.

Another point to note is that while Zondo creates new terms for those which have been used for a long time without difficulties or any academic criticism, he does not create new terms for those that have been criticised in Ndebele and Zulu where most linguistic terms currently being used in Ndebele have been adopted. There are new terms such as *unokuphawula* (relative adjective) and *unobunini* (possessive) in the place of *isiphawulo* and *ubumnini* respectively. It is not clear what Zondo could have perceived as a problem for the terms that have been in use for long. This is likely to cause the problem of synonymy which is also noted by Gläser (1984) with neologisms in linguistic terminology. One would also have expected Zondo to note the problems identified by Hadebe (2006) with regard to some long established terms which have been adopted from Zulu such as *inkathi* (tense), *impambosi* (verbal extension) and *indlela* (mood). The problem seems to be the influence of Zulu which has for long been taught in the place of Ndebele such that besides those terms that have been adopted long ago, those who create new terms still want to keep close affinity to Zulu. In the introduction of the glossary, Zondo refers the user to the *Scholar’s Zulu Dictionary* by Dent and Nyembezim (1969). That the dictionary is no longer a major reference in Zulu is not considered. It is also unfortunate that this influence continues to create some terms that cognitively fall wayward as far as Ndebele is concerned, the example being *umsindomacaleni* (lateral sound) which in Ndebele would best be *umsindomaceleni* because *icala* refers to ‘crime’ in Ndebele and not ‘side’ for which Ndebele has *icele*. This applies to *ilingwistikanzulu* (micro-linguistics) derived by adding *-nzulu*, a less popularly used word in Ndebele to refer to something big, which makes the term fit for ‘macro-linguistics’. Because of this no literal translation is provided in Table 5. Nevertheless, looking at its size and the fact that it was compiled by an individual outside his full-time work without any institutional or financial support, the glossary reflects the compiler’s enthusiasm not only to develop

the terms but also the language and its speakers. It can be regarded as the starting point for terminological work in the respective subject fields and NLLTD.

Some research was conducted at the institutions where Zondo has taught as he has made efforts to popularise his terms. During the lectures in which the researcher participated actively, he would use some of Zondo's terms to observe their communicative effect on the students. Some of the terms were also included in the Questionnaire 1. Students find the terms strange and resist them. However, the avoidance of Ndebele terms is observed not to be peculiar to Zondo's terms. Students often say, for instance, *abantu abasegwalweni* (people in the novel) *instead* of the long established term *abalingiswa* (*umlingiswa* in singular) for 'characters' in a novel. Students really need to be made aware of the advantages of using proper terms in academic work. Zondo's efforts to popularise his terms have so far been less successful, according to the findings of this research. At Masvingo State University where he was teaching when he compiled the glossary, he had enforced the use of those terms as co-ordinator in the Ndebele department but the use of the terms stopped when he left. Through personal communication, Zondo stated that he had given the United College of Education a copy of his glossary for use, but the present researcher only found an old and shorter list which was prepared by the Ndebele department at Hillside Teachers' College. The focus-group discussion and questionnaire results also show that at the University of Zimbabwe, where Zondo is teaching at the moment, students are not comfortable with his neologisms.

A number of reasons may explain the reception of Zondo's efforts. Firstly, the policy of language of instruction in the study of indigenous languages in Zimbabwe's higher education institutions is still equivocal. Thus many would rather use English instead of adopting or creating new terms. Secondly, the attempt to be more Zulu or Nguni makes the terms appear difficult particularly at a time when Zulu literature is becoming less popular in Ndebele as a result of the growth in Ndebele literature. Due to several problems, Zulu terms are also being revised with the help of the National Language Services in South Africa. Trying to maintain old Zulu terms for Ndebele consumers would be seen as tantamount to creating Ndebele terminology using resources of an

abstract language, different from both Ndebele and Zulu. Those who hold this view believe that transliterations are better off, if not an exclusive use of English in the study of grammar and literature.

The foregoing shows that the terminological situation in Ndebele is characterised by a number of challenges which may affect LSP lexicography. There are terminological tasks that the LSP lexicographer has to face or facilitate and in the case of NLLTD, to evaluate the available terms and create “more terms for the ever-growing branches of linguistics and literature” (Hadebe 2006: 156). In carrying out these tasks, lexicographers require the input of subject specialists and the consumers of the terms who are also the prospective users of LSP dictionaries to be compiled. This means that either the tasks or the results of the tasks have to battle it out with other socio-linguistic factors such as policy issues and language attitudes. Some of these factors impact directly on lemma selection or may be worsened by unprincipled lemma selection when a completed dictionary fails to make a positive impact on the intended users.

5.3 The Use of Corpora

In this modern lexicographic era where the use of corpora for several lexicographic tasks is widely appreciated, it is important to consider building corpora as a preparatory stage for lemma selection for LSP dictionaries. According to Taljard et al. (2007: 159), the use of corpora in LSP lexicography is an international trend and “the selection of the appropriate terms to be entered into the central lemma list” is one of its major uses. However, it is important to note that for lexicographic purposes in African languages, corpora have been mainly used for general dictionaries, as noted by Taljard and De Schryver (2002), Taljard (2004) and also Taljard et al. (2007). Apart from the reasons cited for the reluctance of using corpora in terminology related activities, these scholars note that African languages suffer from historical prejudices left by educational systems which excluded African languages. Consequently, there is an acute shortage of specialised texts from which specialised corpora can be built. In fact, even general language corpora are generally below the expected standard of corpora composition and state in terms of size, representativeness or balance. According to Gouws and Prinsloo

(2005: 24):

The reality for most African languages is such that a neatly designed collection strategy is not possible and the whole selection process eventually boiled down to the collection of the *available* texts for the specific language.

With special reference to the Ndebele language corpus, Hadebe (2006: 71) maintains that:

It is a sample of what has so far been published in Ndebele and this sample cannot be described as adequately representative.

Nevertheless, such corpora have been relatively useful in the compilation of general dictionaries, most of which can at best be described as corpus-aided rather than entirely corpus-based.

The possibility of using the Ndebele language corpus for LSP lexicography was tested by searching for what would be regarded as common terms in Ndebele linguistic and literary studies. It emerged that very few linguistic and literary terms are captured. There are others which serve a double function as both terms and common words. When such items are captured in the corpus, they only reflect the meanings they bear as common words. The term *umlingiswa* (character in prose) does not appear in the corpus. The four hits of *indikimba* (theme in fiction) have general senses while none of the ten hits of *umlobi* (author/writer) refers to a creative writer who is of interest to a student of Ndebele literature. While no hit was found for *inovel* (novel), *ugwalo* (book/novel) which Ndebele literary people may opt for has fifteen out of ninety-nine hits which are applicable in the field. This shows that the Ndebele language corpus can really be of little use in the compilation of the NLLTD. The scarcity of specialised terms in the Ndebele corpus is not only limited to linguistics and literature, but one would expect them to be the most captured since teaching Ndebele is the one field where the language is most used. Consequently, the Ndebele language corpus will be of little use for LSP lexicography in its present form. Let it be noted that this is not due to the limitations of corpora in lexicography but the fact that the Ndebele corpus was specifically compiled to aid the compilation of the ISN, a general dictionary. It is largely composed of creative texts, especially novels, and very few texts in specialised language (Hadebe 2006: 46).

What becomes apparent then is that specialised corpora should be created if the production of LSP dictionaries in Ndebele has to be based on corpora. The compilation of LSP dictionaries in Ndebele can also be preceded by building corpora for various LSPs. The main advantages that would be enjoyed include economy in terms of labour, time and also efficiency (Taljard and De Schryver 2002, Taljard 2004, Taljard et al. 2007). This is demonstrated by the creation of a corpus for Northern Sotho linguistics and another one for the BEDIE. To emphasise on the peculiarity of Ndebele, the Northern Sotho linguistic corpus could be built because in South Africa the non-availability of specialised texts have left textbooks of literature and grammar of African languages as exceptions. Thus while corpora can be built for literature and linguistics of African languages in South Africa, this is not the case for Ndebele which up to date does not have grammar textbooks in the Ndebele medium. Zulu texts are still being used. Thus, the only way out for Ndebele would be to adopt the route of the BEDIE corpus; starting with an English corpus, selecting English lemmata and providing definitions and finally translating to Ndebele. In respect of this Bergenholtz's (1995: 94) description of compiling a corpus with a special view to an LSP dictionary as a costly affair becomes true. A more time- and resource-saving approach will be necessary for Ndebele where many planned dictionaries were never completed or even begun. Taljard and De Schryver (2002), Taljard (2004) and Taljard et al. (2007) maintain that the manual input of the lexicographer as well as that of special field experts is indispensable even where an LSP corpus has been used. This is also highlighted by Tsakona (2007) with reference to the bilingualisation of a glossary of sociolinguistic terms. Since creating LSP corpora would definitely be expensive, if possible, Ndebele lexicographers would rather continue with the methods used in the compilation of the ISM and Shona LSP dictionaries which involved the engagement of subject field experts. The methods are described in Mpfu and Mangoya (2005) and Nkomo (2005; 2008a).

5.4 General Considerations Regarding Lemma Selection

So far the considerations that have been discussed are related to preparatory procedures for lemma selection. Now the focus is turned to those considerations which have to be made when some of those discussed in the previous sections have been taken care of.

This refers to those considerations that would immediately influence lemma selection after delineating the scope of the dictionary in respect of a subject field, deciding on whether LSP terms only or also common words will be lemmatised, or building a corpus or engaging experts. It would be noted that such considerations should also be made at the planning stage, but dealing with them may assume that those discussed in the previous sections have been addressed already. Moreover, it would be noted that they are not relevant for LSP lexicography alone but lexicography in general.

5.4.1 Dictionary Size

Dictionary size, in the sense of the total number of pages or number of main lemmata, should always be planned from the outset of the lexicographic process because of its importance. However, it may be noted that in some cases claims of space constraints are not always true. For instance, 1 500 was set as the upper-limit number of lemmata while the maximum number of pages was set at 200 for the ISM and the DRM. None of the dictionaries contains 1 500 lemmata while the ISM reached 195 numbered pages for the whole dictionary. Given the situation where there are few terms, LSP lexicographers find themselves struggling to reach the minimum lemma limit. However, where a clear principle does not exist regarding the lemmatisation of non-LSP terms, LSP dictionaries may become voluminous yet populated by non-LSP terms whose inclusion satisfies no lexicographic function. Thus, dictionary size for LSP dictionaries should be planned according to lexicographic functions and these would vary from one dictionary to another, depending on the subject fields covered. For example, a dictionary of medical terms cannot always be the same size as that of linguistic terms, but this would also depend on the levels of development of the respective subjects in a given community.

5.4.2 Capturing the LSP Lexical Structure in Respect of Grammatical Categories

Just like in general dictionaries, LSP lexicographers should guard against the long established noun-bias when it comes to lemma selection. This has been regretted by L'Homme (2003) who observes that LSP dictionaries often contain terms in noun form which refer to activities and processes while excluding corresponding verbs. The main reason for this is the onomasiological approach to terminology, which focuses on nouns

as conceptual representations. On the contrary, L'Homme (2003: 403) argues that LSP dictionaries should include grammatical lexical items other than nouns because their analysis contributes to a better understanding of the lexical structure of a particular subject field. While this may be opposed on reasons of space-economy, it may be noted that in cases of irregular inflection and derivation, LSP dictionaries with communication-oriented functions may become less useful. Yet again, it may be noted that derived forms may have slightly different specialised meaning, thereby compromising on the cognitive functions as well.

Examples given by L'Homme (2003) include *program* and *programming* in computer science. A useful example in Ndebele linguistics would be *ulwanga* (palate), *ulwangeni* (palatal sound) and *ukulwangisa* (palatalisation). The first one refers to a part of the oral cavity, the second one refers to a sound produced at that respective part while the last one refers to a process by which a non-palatal sound turns into a palatal sound after combining with another non-palatal sound. If a person says '*Lwangisa*' one may never be sure whether he/she is being asked to produce a palatal sound or to combine a particular non-palatal sound with another in order to form a palatal sound. In this respect, the compilers of the NLLTD and other prospective LSP dictionaries should guard against being blinded by the onomasiological approach of terminology into assuming that only nouns constitute terms or lemma candidates for LSP dictionaries. The functionalist approach will also help in this regard.

5.4.3 Capturing the LSP Lexical Structure in Respect of Lexical Item Status

When a dictionary basis has been created for a particular LSP dictionary, lexical item status should become another important issue to be considered in lemma selection. A lexical item is any linguistic item which can be entered and given lexicographic treatment in a dictionary regardless of whether it is a word, word-part or multi-word item. Gouws (1991) highlights a word-bias in dictionaries at the neglect of sub-lexical and multi-lexical lexical items. Gouws and Prinsloo (2005: 87) reiterate that lexical item status and not word status should be one of the main criteria for lemma selection. A word-bias has detrimental implications for users in their efforts to retrieve lexicographic information

since the lexical structure of a language constitutes of semi- as well as multi-lexical items. Sub-lexical lexical items “play a productive role in the expansion of the lexicon (and) they are frequently used to form new complex words” (Gouws and Prinsloo 2005: 87). This is also observed in LSP lexical structures:

In technical jargon there are complex lexical items with the same stem or combining form as first component ... Many of these techno forms have a productive occurrence in a specific technical language and they should be lexicographically treated in a dictionary to enable the user to use the given form in a productive way (Gouws and Prinsloo 2005: 87).

In the linguistic terminology of Bantu languages, such morphemes as prefixes and verbal extensions play this productive role in the sense that they carry a significance which is meaningful to students and experts in the field. Lemmatising a noun-class prefix can be justified as it can be meaningfully defined in terms of its class while a verbal extension can be defined according to the verb status which it renders. For example, if a passive extension is lemmatised, the passive itself can be better defined. Although this connection may not be easy to lay people who may be among the target users of the dictionary, semi-experts in the sense of students of Ndebele linguistics and experts stand to benefit if such semi-lexical items are lemmatised. However, the NLLTD compilers may provide this data in the encyclopaedic section about the Ndebele language if their lemmatisation stands to present problems related to space and their lexicographic treatment.

Turning to multi-lexical lexical items, it would be noted that there will be a lot of them, given the fact that term-creation in African languages is generally secondary. It can be noted from the discussion on linguistic and literary terms in Ndebele that in the case of secondary term-creation, single lexical items can be attained through transliteration which is discouraged for its shortcomings which have also been noted. In some fields such as law and science, English terms, from which languages such as Ndebele derive terms, have been adopted from classical languages such as Latin and Greek as phrases such that whatever term-creation methods terminologists employ, multi-lexical lexical items result. Some linguistic and literary terms created by Zondo are phrasal descriptions of concepts derived by translation from English terms such as *ukweneka ngephimbo* (vocalisation), *isiqubu sokukhuluma* (tempo) *uhlelolimi lwesikhathi esithize* (synchronic)

and *umbuzo ongelampendulo* (rhetorical question). Others are transliterations qualified by a description such as *ilithritsha yomlomo* (oral literature) and *iphonetika yokuzwiwa kwemisindo ephinyisiweyo* (auditory phonetics). Should such items pass the terminological evaluation and be deemed worth lemmatisation in view of the needs of specific users, then their multi-word form does not take away their lexical item status. Therefore, sub-lexical lexical items and multi-lexical lexical items should be entered and provided with lexicographical treatment not only in LSP lexicography but lexicography in general.

5.4.4 Completing Paradigms

Completing paradigms as a consideration for lemmatisation has been discussed differently by different practicing and theoretical lexicographers. In Prinsloo (1994) and Gouws and Prinsloo (2005) it is viewed as the “enter-them-all-syndrome” (Gouws and Prinsloo 2005: 73). In Taljard et al. (2007: 164) it is argued that lack of this consideration will be a serious oversight which will result in failure to capture some close conceptual relationships. It should be noted that completing paradigms is really a dangerous pursuit in as far as lemmatisation of verbs and even nouns in African languages is concerned, considering the morphology of the verb and the noun. As Gouws and Prinsloo (2005: 73-74) rightfully note, lexicographers end up making other oversights and creating articles which are not user-friendly. On the other hand, completing paradigms in lemma selection for LSP dictionaries becomes an important consideration which contributes to systematic representation of subject fields in the dictionaries. The inclusion of *ivayolini* (violin), *ivayola* (viola), *itshelo* (cello) and *ivayolini yebhesi* (double bass) in the ISM is a case of completing paradigms where all the four types of violins which are distinguished according to pitch, are represented as a set of music instruments. In the NLLTD, simple examples would be making sure that all the four types of qualifiers (*izichasiso*) namely the relative adjective (*isiphawulo*), the relative descriptive (*isibaluli*), the possessive (*ubumnini*) and the quantitative (*inani*) are all represented for the linguistic field while novel (*ugwalo*), drama (*umdlalo*) and poetry (*inkondlo*) feature as the main literary genres for the literary field. This would be useful in pursuit of the cognitive functions by which the LSP dictionary would provide special information about subject field elements.

5.4.5 Synonyms

The mononymy (one-concept-one-name) principle of terminology (Gilreath 1993: 87) has always been seen as a problem in terminology and subsequently lemma selection for LSP dictionaries. Since LSP dictionaries are supposed to meet terminological standards, satisfying this principle would mean excluding synonyms, particularly when the dictionary targets experts only. This would amount to a prescriptive approach and where LSP dictionaries deal with terms pending standardisation or as a way of standardising them, it becomes a serious challenge. However, according to Sager, quoted by Jacobson (1984: 361):

Terminological diversity in the form of synonymy and polysemy as opposed to one-to-one correspondence between terms and concepts is not a bad thing, since it can make a terminology more natural and attractive than it would be with monotony that insistence on uniformity brings about.

This means that LSP dictionaries would not be wrong to lemmatise some terms as synonyms of others. As noted earlier on, lots of them are available in the linguistic and literary terminology in Ndebele as part of the terminological situation. However, lexicographers should also try to seek and set standards through collaborative relations with subject field experts in the compilation process. An unfortunate example can be noted in the DRM where six synonymous items have been entered for ‘little finger’ whose only inclusion is because it is used in the playing of music instruments. For the lexicographer to claim having suffered from dictionary space restrictions during the compilation process would be unfortunate not only because of including an item that is well defined in the general dictionaries but for including six synonyms for the main item. A proscriptive approach to lemma selection, which provides for the inclusion of synonyms alongside standardised terms, would emerge as a best of policy of handling such problems in linguistic communities where languages are still undergoing standardisation. This has been highlighted by Norman (2002) and treated in more detail by Bergenholtz (2003). The approach is also relevant when it comes to non-LSP items and variants as candidates for inclusion in an LSP dictionary as well as in the treatment of such items (see 6.2.2.3).

5.4.6 Variants

The argument in the above subsection applies to variants, although the prevalence of variants should be quite limited if the dictionary has to contribute significantly to standardisation. Thus, divergence as a result of spelling should be heeded since general dictionaries address it. Similarly, a proscriptive approach would be necessary, whereby the lexicographer lemmatise an item and clearly indicate acceptable standards by means of well-devised mediostructures.

5.5 Conclusion

This chapter has discussed lemma selection for LSP lexicography. Not only was the lemma selection process the focus but also preparatory procedures of particular relevance to LSP lexicography. These include delimiting the scope of an LSP dictionary by means of a systematic classification of the subject fields which the dictionary intends to cover. Considering the preparatory stages in a discussion of lemmatisation it is hoped to show that the lemma selection process can be best understood as part of a particular lexicographic process.

The notion of LSP was also explored in order to clear the confusion that dominates lemma selection in LSP dictionaries. This confusion results in a dilemma of whether to include LSP terms only, common words as well as technical jargon. While it was argued that LSP consists of terms and a variety of other lexical items of general reference, it was concluded that the target users of the dictionary can help the lexicographer to make correct decisions. This also applies to the lemmatisation of sub- and multi-lexical lexical items, synonyms, variants and other grammatical forms which may constitute the lexical structure of a particular LSP. The same approach will be proposed for the provision of data categories in the next chapter.

CHAPTER SIX: DATA CATEGORIES

6.0 Introduction

The previous chapter discussed a number of considerations that LSP lexicographers should take into account in order to arrive at a principled lemma selection process. The quest to meet the needs of specific groups of users within various specialised fields should prevail over all possibilities. The question of whether or not to lemmatise a particular type of lexical item should be addressed in view of the users who might need information from the prospective dictionary about such kinds of lexical items and whether there are no other better ways of serving the users in respect of that information other than lemmatising the terms. The previous chapter is therefore the point of departure for this chapter.

In the present chapter, the provision of data categories for individual lemmata in LSP dictionaries is discussed. Just like in lemma selection, lexicographers should be guided by the lexicographic functions of the LSP dictionaries to be compiled. Lexicographers need to consider the users' needs in specific situations, the problems they may encounter in those situations and the assistance which dictionaries can provide. Lexicographic functions provide a stronger link not only between individual lemmata and user needs but also with various data categories provided for each lemma. It is the availability of particular data categories which users may need in various situations which leads to the satisfaction of particular lexicographic functions.

This chapter is divided into two main sections. Section 6.1 indicates a link between lexicographic functions and certain data categories. Section 6.2 is the main part of this chapter. Based on the first section and making reference to other published LSP dictionaries, it discusses several data categories which may be considered for the NLLTD. It reflects on the data collected through fieldwork, the limitations of which are clearly presented. An attempt is always made to show that except in cases where language-specific features are decisive, lexicographic functions are the nucleus of modern lexicographic theory which should guide lexicographic practice.

6.1 Lexicographic Functions and Data Categories

This section discusses lexicographic functions together with the correspondingly relevant data categories for their achievement, as summarised by Tarp (1995: 22-24) for LSP lexicography, Tarp (2004a) for learner's lexicography and Gouws and Prinsloo (2005) for lexicography in general. Subsection 6.2.1 discusses the various data types that provide special information about subject fields to the user. The data categories needed for text production are discussed in 6.2.2, before discussing those that are needed for text reception and translation in 6.2.3 and 6.2.4 respectively. Regarding subsections 6.2.2 up to 6.2.4, it would be noted that each subsection discusses simultaneously the lexicographic functions either in the native language or in a foreign language. The major reason for this is the realisation that more or less the same data categories are common for the functions discussed in each subsection. The only difference is that the provision of data can either be with regard to the native language or the foreign language. The degree thereof may also vary.

6.1.1 Special Data about Subject fields

The provision of data from subject fields and the manner in which it is done distinguish LSP dictionaries from their LGP (language for general purposes) counterparts (Mihindou 2004). In as far as this is a basic cognitive lexicographic function, it is also important in that it informs a function-based approach to dictionary typology. Thus, LSP dictionaries deal with the language used in specific subject fields while LGP dictionaries deal with general vocabularies of various languages. Besides this, all dictionaries are primarily motivated and judged against the lexical needs of the users whom they serve (Hartmann 1983: 5). These needs determine the functions that different dictionary types fulfil.

The provision and treatment of special information in concrete LSP dictionaries would differ from one dictionary to another. It would usually be determined by the target users of the dictionary and their characteristics in respect of encyclopaedic competence in the subject field, their competence in the native language and/or the foreign language. This may lead to more detailed cognitive functions for a particular dictionary such as the following:

- To provide a general introduction to the subject area
- To provide special information about the subject area in the native country
- To compare a subject area between two cultures

Such specific functions determine the nature and amount of encyclopaedic data that a particular LSP dictionary may contain. Useful data categories in this regard will include definitions, encyclopaedic notes or labels, equivalents and degrees of equivalence. Where definitions are provided, the nature of the defining language also becomes an important issue. As mentioned earlier on, the user profile of a particular LSP dictionary should provide guidance on all the functions related to the provision of special data about subject fields. Finally, it should be noted that in pursuit of cognitive functions, LSP dictionaries can provide encyclopaedic treatment of the subject fields they treat elsewhere other than in their main texts, which will be clearly shown in 7.3. The various data types that should be considered in the NLLTD in order to fulfil the cognitive functions identified in 4.5 will be discussed in 6.2.

6.1.2 Data Categories for Text Production

Dictionaries serving this function assist users to produce oral and written texts. This can be done either in the native language or the foreign language. In addition to encyclopaedic competence in the subject fields in which LSP texts are to be produced, LSP text producers need to have certain levels of linguistic competence in the native language, foreign language or both. These requirements would depend on the nature of LSP texts that specific users intend to produce and the intended recipients or consumers. For instance, the production of an oral text by a lay person in the native language requires little encyclopaedic competence, an average native language competence and no competence in the foreign language while the writing of a journal article by an expert in either the native language or the foreign language requires high levels of linguistic competence in either the native language or the foreign language and high encyclopaedic competence as well.

LSP dictionaries with the text production function should include data categories which enhance or supplement the respective competence levels required for the task. It should also be noted that it is not only the necessity of a particular data type in text production that should determine whether or not a dictionary has to include the data category that meets that requirement. An equally important factor is that of the users' respective competence levels in the subject knowledge area and the involved language(s) which qualifies a person for the production of particular texts. Lay people cannot be expected to produce highly specialised texts. Therefore, a dictionary that is intended for text production by such users cannot be expected to include the data categories that an expert will need for text production.

The information that users need for text production in both the native and the foreign language is basically the same except that the dictionary provides the required data category for either the native language or the foreign language. The data types include orthography, gender, pronunciation, irregularity, collocations and usage of lemmatised items. Labels should be provided to indicate whether or not the lexical items constitute part of the standard usage of language and the subject fields or sub-fields to which they belong. These data types provide the linguistic guidance needed in producing texts which meet the linguistic as well as terminological standards of a particular general language and a particular LSP as systems of communication. In this case the nature of the particular language in which text production takes place becomes an important factor. For instance, some languages do not have gender distinction and others do not have irregular inflection as morphological features. Therefore, there cannot be any talk of data meant to provide information on gender or irregular inflection respectively. While brief explanations may complement these linguistic provisions, they are also important in providing the encyclopaedic guidance within a particular subject field. Data categories required to facilitate text production in the NLLTD are discussed in 6.2.

6.1.3 Data Categories for Text Reception

Dictionaries also play a very crucial role in text reception. This can be either in the native or a foreign language. Unlike in text production, the data types required for reception in

the native language are quite different from those required for reception in a foreign language. Native-language text reception dictionaries help users in situations where they fail to understand either oral or written texts in their own languages. This means that a dictionary with such a function provides linguistic guidance to the user who has a generally reasonable command of the language, although this would depend on other factors such as age, literacy levels, types of texts to be received and encyclopaedic competence in the case of LSP texts. Depending on such factors, the information which users may need in order to comprehend texts include word-class, gender, pronunciation and irregularity in the case of linguistic guidance and encyclopaedic notes for terminological and encyclopaedic guidance. The provision of data types meant to provide such information would depend on the characteristics of the target users and those of the specific language in which the texts are rendered, just as in text production.

Text reception in a foreign language would be quite different from text reception in the native language and, as a result, the information requirements would also differ. The user does not need orthographic information in the case of written texts since the texts are already there. The user needs information on pronunciation (for oral text reception), gender and irregularity for linguistic guidance as well as encyclopaedic notes for cognitive guidance in the comprehension of texts just like in native language text reception. However, in some cases comprehension will further be enhanced if the user is always able to relate the textual content in the foreign language to the native language. Data on word-class and translation equivalents may provide this information, but the overall inclusion of all the relevant data types in respect of this function depends on the same factors as in the other functions which have already been discussed, except that one needs to be competent in both the native and the foreign language as in foreign language text production.

6.1.4 Data Categories for Translation

Translation is rendering in a target language a text from the source language. In a way, it is text production which is essentially based on the comprehension of the original text, albeit in two different languages. Dictionaries play a very important role in facilitating

effective translation. This importance cannot be overemphasised for LSP dictionaries serving translation functions considering that mistranslation in subject fields such as law, physics, chemistry and medicine can be accompanied by grave consequences. Translation equivalents are the primary data categories for all translation dictionaries. However, bearing in mind that direct equivalence is rare, particularly in the so-called culture-dependent fields, translation dictionaries should provide for this unavoidable situation by also providing information on degrees of equivalence between lemmata and their equivalents. This would assist translation either from a native language to a foreign language or from a foreign language to a native language.

However, equivalence data on its own is inadequate for effective translation if one considers that language is not only a system of meaning in the sense of words or terms but also units smaller and larger than words. Full comprehension of texts will be served by data categories necessary for text reception in the source language; either the native language or a foreign one depending on the direction of translation. These include word-class, gender, pronunciation, irregularity and encyclopaedic notes. It is only after comprehending the text that one can then render it into another language and this would require all the data types relevant for text production on the target language.

While the relevant data categories are the same for the two translation-related functions, that is both to a foreign language and to the native language, it is necessary to note that the relevance relates to either a foreign language or the native language and not both. For translation from a foreign language into the native language, for instance, orthographic data is relevant only on the native language while it is the other way around for translation from the native language into a foreign language.

6.2 Data Categories for the NLLTD

The recommendation that the NLLTD should be poly-functional made in Chapter Four implies that data categories should be provided in such a way that a combination of cognitive and communication-oriented functions is catered for. The correspondence between lexicographic functions and data categories presented in the previous section

forms the basis for the argumentation that will be advanced in this section. The discussion will also be informed by the fieldwork for this study, which also investigated the users' views about certain data types in the ISN, ISM and in the prospective NLLTD. This was done through Questionnaire 2, particularly questions 3, 4 and 9 (see Appendix 2) and the focus-group discussion.

It is important to point out the shortcomings of fieldwork and the methods used to gather the data relevant to this discussion. The major challenge was the general one of conducting a metalexigraphic research in a community with a young dictionary culture. While the choice of students who have studied Ndebele lexicography appeared to be the best way of putting the research into perspective, it still emerged that the same students possess very limited knowledge of Ndebele dictionaries and the principles that guided their production. If their knowledge of Ndebele dictionaries was better, they would have given more critical insights based on both dictionary use and metalexigraphical principles as both users and students of Ndebele lexicographical products. The arguments for the provision of data categories in the NLLTD are based on the users' needs which are a link between lexicographic functions and data categories, not merely their expectations which were observed through fieldwork. Low dictionary culture is an observed factor that, however, should be considered in the provision and presentation of data categories.

The use of questionnaires had its limitations too. As stated in the methodology chapter, the questionnaire method was not mainly used for quantitative purposes but mainly to solicit the ideas of group participants who could not get an opportunity to express themselves during the discussion. Therefore, while questionnaires are primarily quantitative research instruments, the quantitative aspect is of little significance in this study since only thirteen questionnaires investigating the provision of data categories were completed. Thus, concern is on the quality of the responses which could be solicited within a reasonably short time by means of a questionnaire. However, the reliability of the answers given to some of the questions is questionable and suggests that some respondents had to try to give answers which they thought were correct instead of the

actual truth. Thus, most of what may be seen as users' needs are simply their expectations whose validity has to be assessed by lexicographers.

Although dictionary structure is not the main subject of this chapter, a discussion of data categories that can be included against each lemma in a way informs the article structure. The section, therefore, adopts the division of an article into a comment on form and a comment on semantics, following Hausmann and Wiegand (1989: 345) and Gouws and Prinsloo (2005: 119). This discussion, however, is restricted to the provision of various data categories that constitute the two parts of a dictionary article. Their presentation and arrangement is reserved for the next chapter.

6.2.1 Comment on Form

The comment on the form contains items indicating the formal or grammatical features of the lemma. They include orthography, pronunciation and other grammatical data on word-class, inflection and derivation. This subsection focuses on those that are relevant in view of the lexicographic functions which may be served by the NLLTD and the linguistic features of the Ndebele language. The discussion intends to show why the NLLTD may or may not need to provide the relevant individual data types as parts of its microstructure, primarily in view of the lexicographic functions which it may serve.

6.2.1.1 Orthography

Hadebe's (2002) research on the standardisation of Ndebele through dictionary-making amply shows that Ndebele orthography has always been a contentious issue. Although the ISN now stands as a standard measure for correct spelling in Ndebele, Zondo's review² of the ISN suggests that there are still some orthographic issues which need to be resolved. For instance, the debate of whether the English word *class* should be rendered as *ikilasi* or *iklasi*. Lack of unanimity on some aspects of Ndebele orthography after the

² J. Zondo undertook a general review of the ISN and submitted it to ALRI for consideration in the revision of the dictionary or compilation of subsequent dictionaries. It represents one form of dictionary criticism targeted towards the ISN by an academic. Zondo has been involved in numerous activities relating to the teaching of Ndebele in schools, colleges and universities. Some other contributions by him include a series of Ndebele textbooks for secondary schools and the glossary of linguistic and literary terms, also referred to in this study. Unfortunately, the review of the ISN is unpublished.

ISN publication has implications for all the dictionaries being compiled after it. Following the ISN wholesale in representing some linguistic forms, particularly loan-words, or adopting different systems in the compilation of future dictionaries may equally invite criticism and rejection from different directions. Hadebe (2006) indicates that since the task of the ISN editors was to compile the dictionary and not to prescribe spelling rules, it would be difficult to address all spelling problems in the language. Issues of Ndebele orthography ideally need to be addressed by means of a commission or board specially constituted for this task. However, in the absence of such an authority, as has been the case in the production of the recently produced dictionaries, the NLLTD editors need to pay enormous attention to the challenges of spelling some linguistic and literary terms. They need to consult widely since it was shown in Chapter Five that inconsistency in spelling is one of the terminological challenges that LSP lexicographers should contend with. As in the compilation of the ISM, a reference working group of experts need to be constituted for the NLLTD to address, among other issues, the orthographic presentation of terms. Native-language text production was identified as the primary function which should be considered for the NLLTD. The dictionary should guide text producers in producing academic texts in Ndebele linguistic and literary studies following an orthography that is based on consistent principles.

6.2.1.2 Pronunciation Data

Pronunciation is vital information which dictionary users need for oral text production and reception. Ndebele students will be faced with oral text reception and oral text production during lectures should Ndebele eventually become the sole medium in all language related courses. This means that they will have to listen to terms being pronounced and also pronounce them. The major problematic element of pronunciation which has been identified by scholars for African languages is tone (Gouws and Prinsloo 2005: 120). Many African languages are tonal such that changes in tone may result in changes in meaning. Ndebele is no exception, for example, raising the tone in *ìbèlè* (corn) yields *ìbéle* (breast), a different word with a different meaning.

It is on the basis of the reality highlighted in the preceding paragraph that the participants in the focus-group discussion and questionnaire survey identified tone as a great omission in the ISN. The user has to read through the definitions of two homographs before ascertaining which of them initiated the look up process as in the case of *ibele* (corn/breast) in the previous paragraph. It was suggested that the NLLTD compilers need to consider the inclusion of tone as a data category. However, the compilers need to go further than that to confirm if the assistance that they may purport to be providing by indicating tone would in actual fact be called for considering that the dictionary will be dealing with LSP. The question they need to ask themselves is whether the prevalence of homographs in the respective LSP will be as high as it is in the general vocabulary. Are the NLLTD compilers going to face many homographs as did the ISN compilers? The sample of collected linguistic and literary terms, which is big enough to influence informed decisions although a lot of terminological work still needs to be done on them, does not highlight the existence of homographs. This suggests that indicating tone as a microstructural data type may have no real value in the NLLTD, especially considering that the target users are all native speakers of the language.

On its own, the provision of data on pronunciation in dictionaries is generally fraught with challenges. The International Phonetic Alphabet transcription which is the best system in terms of accuracy is too sophisticated for many dictionary users to decode. The same goes for some diacritic symbols which lexicographers and linguists tend to settle for as they need to be taught to the dictionary users. Others, which tend to be quite simpler such as abbreviations K for *hwidzazwi* (high tone) and D for *dzikisazwi* (low tone) used in the DRM and the DDU to indicate tone on each syllable, at times take up a lot of space, depending on the orthographic length of the lemma. Considering such challenges and the fact that the NLLTD's target users are primarily native language speakers, providing data on pronunciation may not add any value to the dictionary despite the fact that the prospective users view it as an omission in the published Ndebele dictionaries. Besides, native language text reception, particularly in the oral form, may not be considered to be the primary function of the dictionary given that the unavailability of texts and co-

ordinated text production are the main problem affecting Ndebele linguistic and literary studies.

6.2.1.3 Grammatical Data

Grammatical data categories are essential for text production purposes, of which native language text production deserves prime consideration in the production of the NLLTD. Grammatical data categories include word-class, inflectional and derivational data, all of which help the user produce well-formed texts, conforming to the linguistic rules of the language as well particular LSP varieties. The need for grammatical data in LSP dictionaries including those targeted at native language speakers results from the fact that “general language competence in the user’s native language does not ... imply a similar degree of LSP competence” (Bergenholtz 1995: 112). The compilation of LSP dictionaries in Ndebele also need to take into account these considerations. It should also be borne in mind that the genuine need for each data type will vary from one dictionary project to the other, depending on the nature of the subject field, LSP and target user characteristics.

Word-class information is generally important for both text production and text reception. For text production purposes, it informs the user of correct usage since word-class determines the grammatical functions. For a language such as English, word-class data is also important for text reception since it specifies meaning as in the orthographic word *process* which is realised as both a noun and a verb. LSP lexicographers, however, need to verify if there are instances within a particular LSP where an item belongs to at least two word-classes. It has also been noted with regret that lemma selection for LSP dictionaries generally displays a bias towards nouns as representations of concepts which constitutes the knowledge structures of various subject fields (see 5.5.2). If the lemma selection policy recognises the existence of terms belonging to word-classes other than nouns, then it may be important to mark lemmata for word-classes. However, if considered, the provision of word-class data should adopt a minimalist approach in order to save space. Since lemmata would be LSP elements, word-class data would not need

extra-grammatical details such as noun-class or transitivity or intransitivity of verbs which are provided in the ISN.

Alternatively, the NLLTD compilers may leave out word-class data altogether and provide guidelines on it by explaining in the front matter the policy regarding the lemmatisation of various word categories and the way in which they are entered in the macrostructure. This is possible since the various word categories may not be lemmatised in a similar way. For instance, nouns are entered as full forms with their full prefixes such that the elementary linguistic knowledge of the noun-class system in Ndebele and Bantu languages in general would enable semi-experts to identify a term as a noun. On the other hand, for verbs only roots are entered as *pre-hyphenated lemmata* (see 7.1.1). Once these procedures are explained in the user guidelines, users would not be expected to have problems regarding the exclusion of such data. Besides, the information which can be retrieved from such data can be conveniently presented in a more detailed and user-friendly way in the front matter as part of the encyclopaedic section on linguistics in general and Ndebele linguistic structure in particular. This will complement the main text in fulfilling the cognitive functions while at the same time increasing the user-friendliness of the dictionary by reducing textual condensation in the articles and the density of the articles.

Another information type that should be considered in general relates to inflection. Inflection as a word-formation process changes the word-form of a word such as its tense, gender and number (singular/plural). Information on inflection, especially if it occurs irregularly in a language, should be provided in dictionaries intended for text production, which has to be an important lexicographic function of the NLLTD. However, this does not point to the necessity of including inflectional data in the dictionary microstructure since inflection seems to be very regular in the language, with clear tense, gender, concord and plural markers for the respective word categories. For instance, the provision of genitive data should not be considered for the NLLTD because gender distinction in Ndebele is mainly associated with animate creatures of which *-kazi* is a feminine suffix whose addition on a noun indicates that something is female although

its absence does not only indicate masculinity but a neutral gender as well. Genitive data would therefore be unworthy of considering in the NLLTD, but possibly in a dictionary of biological or agricultural terms. Because of its productive importance in the language, the general inflection rules regarding gender can be outlined in the grammatical outline of the language in the encyclopaedic section of the NLLTD.

Unlike inflection which results only in a new word-form, derivation results in a new grammatical word. However, like the former, it is an important productive process which dictionaries meant for text production should consider providing as a data category for some lemmata. In the NLLTD, the provision of derivational data in the microstructure should be determined by the manner in which the compilers choose to deal with terms derived from other terms. Depending on lemma selection policies employed, the compilers may lemmatise separately the noun *ulwanga* (palate), the derived noun *ulwangeni* (palatal sound) and then the verb *-lwangisa* (palatalise) or the infinitive form *ukulwangisisa* (palatalisation), which are derived from the simple noun. The derived forms may also be lemmatised as sublemmata. In either of the ways, indicating that the latter three are derived from the former would not only be useful comments on the form of the latter but also important special information to the user. Both the text production function and the provision of special linguistic knowledge as a cognitive function would be catered for. However, as it has just been stated, all this depends on the lemmatisation policy and also the encyclopaedic nature of the definitions.

6.2.2 Comment on Semantics

Comment on semantics refers to those data categories which seek to offer an understanding of the meaning of the lemma and subsequently its usage. They include definitions, equivalents, etymology, sense relations, usage examples, lexicographic labels and pictorial illustrations. This subsection discusses the need for these in the NLLTD and the factors that the compilers should consider in dealing with them.

6.2.2.1 Definitions

Unanimity prevailed during the focus-group discussion that the NLLTD should provide meaning for all lemmatised linguistic and literary terms if it is to be helpful to its users. All the completed questionnaires also indicate the need for the presentation of data on meaning in the NLLTD. Also, from a functional dimension, the provision of data on meaning would not be a misdirected procedure but an important one towards the fulfilment of both cognitive and communication-oriented functions of the dictionary. The dictionary should explain various linguistic and literary concepts and themes in order to impart knowledge to its users who further need to share that knowledge through communication. The role of meaning as elements of knowledge cannot be overemphasised here. Focus needs to be turned on how the NLLTD has to provide meaning so that users become more knowledgeable after looking up the meaning of lemmatised terms.

Definitions are the main data categories that should provide meaning in the NLLTD so that Ndebele terms can be understood in the Ndebele language. It should be pointed out from the outset that the notion of *definition* in metalexicographical literature is quite problematic. However, the problem appears to be more of a theoretical nature without much practical consequences if the functional approach to defining is maintained. There seems to be two major schools of thought: one represented by scholars such as Landau (2001) and the other by Wiegand (1984). Landau (2001: 163) stresses that “dictionaries are about words, not essentially about the things described by them”, thereby arguing that ‘lexicographic definitions’ should define words not the things to which they refer. On the other hand, Wiegand (1984: 19) argues that there is no strict distinction between semantic knowledge and encyclopaedic knowledge such that lexicographic definitions in the sense of Landau are impractical. Consider Landau’s definition of *cephalic presentation* below quoted in full:

cephalic presentation a presentation of the fetus in which the fetal head is the lowest part and appears first in the uterine cervix. This is the most common presentation of a human fetus during labor (Landau 2001: 188).

This definition is used by Landau not to illustrate a lexicographic definition as a purely semantic address devoid of encyclopaedic data but to illustrate another aspect of defining. If it were to be used for that purpose, then there would be no argument for the lexicographic definition. The definition does not seem to define the term only but also the phenomenon, leaving the reader with clear knowledge, not only of the term, but also of the defined phenomenon. There seems to be no difference between this definition and that of *lemon* as an “oval fruit of a lemon tree with juicy, sour pulp and yellow rid” by Wiegand (1984: 27), who prefers the term ‘lexical paraphrase’ instead of ‘definition’. It may be inferred that the conflict between the two schools of thought, if any, is more of a theoretical nature.

The NLLTD should also do its best to define linguistic and literary terms in a manner that leaves users more knowledgeable not only about the terms but also about the relevant themes and concepts in the fields. The theory of lexicographical description of language, which is component D of Wiegand’s (1984: 15) general theory of lexicography, thus provides the broad theoretical framework for defining not only for LSP lexicography but lexicography in general as it “does not draw a sharp dividing line between language and the extralinguistic world” (Wiegand 1984: 17). It facilitates the production of dictionaries which achieve maximum transfer of knowledge to users. From a linguistic perspective the distinction between semantic and encyclopaedic data may be important; for lexicography it is irrelevant. What is important is that the user retrieves the information he/she needs. It should be succinctly emphasised that definitions should be relevant, correct and complete. The quest for relevance in LSP dictionaries is important since definitions have to provide special information about a concept in order to address the needs of specific users. Thus, the definitions have to be relevant in respect of the subject field and also the target users of the dictionary. Consider the following article from the DUU:

chitunidzo accelerator. Chinhu chinoita kuti zvimwe zvinhu zviitike nokukurumidza kupfura zvazvinoita mazuva ose.
(Something that makes things happen faster than normal) (DUU: 15)

The article presented above comes from a biomedical terms dictionary. The definition of accelerator does not display any relevance to the respective subject fields. One may even wonder whether the accelerator referred to is that of a car or not, but all the same, a dictionary of car assembling would not define it as ‘something’.

Correctness of definitions requires that definitions should be factually accurate. While defining a concept in an LSP dictionary as ‘something’ would be inadequate, defining it as what it is actually not would be more detrimental from the view of cognitive as well as communication-oriented functions. LSP lexicographers should be cautious not to make such mistakes particularly where definitions have to be more explanatory. Saha (1994) indicates that definitions of linguistic terms tend to be incorrect because lexicographers ignore the developments of linguistic research. This is important not only for the NLLTD but LSP lexicography in general. Lexicographers should ensure that definitions present correct and up to date knowledge. The emphasis on the scientific correctness of definitions of LSP terms was made by Zgusta (1971: 255) and remains relevant today. There is nothing worse than incorrect definitions that can destroy the credibility of a dictionary, not even rivalry from another dictionary publisher.

Completeness of a definition means that “all details, features and characteristics necessary to understand what the word means should be given” (Gouws and Prinsloo 2005: 147). This is also highly relevant in the case of LSP lexicography where definitions may be used to achieve the cognitive function of transferring special encyclopaedic information to the user. Imagine if the ISM were to define *ikatali* (guitar), *ingungu* (drum) or *ivayolini* (violin) simply as ‘a type of instrument’. The definitions would be incomplete and useless. The user should get enough information from a definition given in an article. Related to this, definitions are therefore expected to be independent so that following a cross-reference to a cross-reference address would be motivated by the need for more information and not because too little is presented in the article containing the cross-reference position (Gouws and Prinsloo 2005: 148). In this respect, lexicographers should be warned against over-specifying, inaccuracy and irrelevance.

Another important guideline that should be taken into account regarding definitions is clarity. In general purpose dictionaries it may be related to some of Zgusta's (1971: 257) following principles of defining:

- The definition should consist exclusively of words which are explained in the dictionary
- The lexical definition should not contain words more difficult to understand than the explained word itself
- The defined word may not be used in its definition; the same applies to its derivations or combinations unless they have their own, independent definitions in the dictionary

Landau (2001: 157) also has a similar principle that requires lexicographers to “define every word used in a definition”. He also states that definitions should be simple and should avoid ambiguity. While the need for clarity cannot be overemphasised, some of the principles listed above may be problematic when it comes to LSP lexicography. It would be difficult to define all the words used within a particular definition because this might imply lemmatising some non-LSP elements whose inclusion would not lead to the achievement of any specialised lexicographic function. For example, the inclusion and definition of Shona terms for fingers such as *munongedzo* (index finger) and *kasiyanwa* (little finger) in the DRM appears to be based on the fact that the term appears frequently in the definitions of terms referring to instruments, such as *mbira* (mbira) which are played using fingers. However, from a functionalist point of view, one wonders whether any of the target user groups of the dictionary needs dictionary explanation of what a finger is, given that they are primarily native language speakers. For LSP lexicography, perhaps clarity of definitions should be related to the question of including technical terms within definitions (Carstens 1997: 20-21). However, this question also needs to be considered taking into account the specific users of a dictionary. For a dictionary intended for experts, this might not be a problem. It becomes a problem for lay people and semi-experts as LSP dictionary users, considering that their encyclopaedic and LSP competence levels are relatively low. In that case it should always be borne in mind that

the use of other terms in definitions does not affect the clarity of definitions. The use of synopsis articles would therefore be recommended where other LSP elements are used in defining others.

In view of the definition guidelines which have just been briefly described, and others which were not discussed because they are not of immediate relevance to this thesis, several metalexicographers have distinguished various types of definitions (Ayto 1983, Carstens 1997, Mihindou 2004, Gouws and Prinsloo 2005). Carstens (1997) and Mihindou (2005) particularly discuss the types of definitions in view of LSP lexicography while the other scholars deal with them in view of a variety of dictionary types. Carstens (1997: 18) lists the following types of definitions:

- The intensional definition (defining a term by mentioning the genus concept as well as those features distinguishing it uniquely from other concepts at the same level of abstraction)
- The extensional definition (the enumeration of species which are at the same level of abstraction, or of all objects belonging to the concept defined)
- The contextual definition (definition by way of example from actual usage ...)
- The operational definition (describing a process or operation by which the referent of the term is realised)
- The ostensive definition (the use of illustrations)
- The synonym definition (the description of the concept by using a synonym)

Carstens then focuses on the first four, showing their importance in the quadrilingual explanatory dictionary of chemistry. However, in her attempt to evaluate the appropriateness of the various types of definitions, it emerges that it is important for LSP lexicographers not to be restricted by the types of definitions. For example, while she indicates that intensional definitions, also called the *genus-differentiae*, may be useful for terms denoting objects, she also notes they are too brief to provide encyclopaedic information required by the users. The suggested measure against this constraint becomes supplementing intensional definitions with features from the other types of definitions.

She also notes that the definition types do not stand in opposition to each other. In view of this, no attempt will be made to assess the relevance of the definition types in LSP lexicography here, although it is recommended that attempts should be made to define closely related sets of terms in a consistently similar way. This strategy was applied in the ISM by classifying concept categories as music genres, dances, instruments and so on before formulating defining formats which ensured that specific aspects would be covered in all definitions of terms referring to instruments, for example (Nkomo 2005).

It should also be reiterated that LSP lexicographers should be guided by the genuine purposes and the respective lexicographic functions of their dictionaries in order of importance. LSP dictionaries with cognitive functions like the NLLTD should provide encyclopaedic and explanatory definitions. However, the utilisation of the encyclopaedic section of the dictionaries, the use of illustrations and cross-referencing will also contribute to the extent of the definitions in that respect. More so, completeness, accuracy, relevance and clarity among other guidelines should always be considered in view of the target users.

6.2.2.2 Translation Equivalents

Before discussing equivalents as data candidates and their function in the NLLTD, it would be helpful to make two bold statements regarding their provision as data categories in dictionaries. Firstly, the occurrence of translation equivalents in the comment on semantics of a dictionary does not necessarily elevate that dictionary to the level of being classified as being bilingual (Gouws 2004a: 268). Secondly, not all bilingual dictionaries can be used for translation or text production in the foreign language (Burkhanov 2004). These statements are made in order to dispel some erroneous beliefs which result in dictionaries which provide translation equivalents as data categories being misused and hence unfairly evaluated. The ISM can help to illustrate these unfortunate scenarios as a concrete dictionary and also as a precursor of the NLLTD.

The ISM contains Shona and English translation equivalents against Ndebele lemmata. The following article from the dictionary illustrates the presentation of translation equivalents together with other data categories:

irondo rondo (SH) rondo (EN) ... *Irondo* yindikimba yengoma ephindwaphindwayo kuziqendu zengoma. Embalini yomculo *irondo* yayivame ukusetshenziswa ukugqiba kumbe ukuphetha imiculo yohlobo lwesonatha.

(Rondo is the theme which is repeated in all stanzas of a song. In music history, the rondo was used to end music of the sonata type) (ISM: 67).

In the above ISM article, SH represents Shona while EN represents English. The data items before the two indicators in the above article and in the entire ISM are therefore Shona and English translation equivalents respectively. Otherwise the rest of the data categories, including definitions, are given in Ndebele. Because of its provision of Ndebele and English translation equivalents, the DRM is regarded by its editor (Mheta: forthcoming) as a trilingual dictionary. The implication of this would be that the ISM is also trilingual since the only major difference between it and the DRM is the metalanguage. This is a misinformed opinion. The ISM and the DRM cannot serve any of the functions of bilingual dictionaries effectively because they were not designed with them in mind. They are monolingual dictionaries. At best, they may be called trilingualised monolingual dictionaries (Hartmann and James 1998) or monolingual dictionaries with a trilingual dimension (Gouws 2004a: 269). This will apply to the NLLTD if it follows the typological model of the ISM and all the other LSP dictionaries produced by ALRI so far. The typological nature of the NLLTD was discussed in 4.6.

Although the foregoing has established that all LSP dictionaries compiled by ALRI are monolingual, it is still possible to use Burkhanov's argument on the limitations of bilingual dictionaries which are often expected to serve more than what they are created for, mainly translation and foreign language text production. This is because by merely providing equivalents as data categories, dictionaries such as the ISM are mistaken for bi- or multilingual types which are unfortunately expected to do more than they are created for. A claim cannot be made that equivalents in the ISM were meant to serve translation

needs. Had it been the case, only English equivalents would be necessary since translation between Ndebele and Shona has thus far been rare. Translation is frequent between either Ndebele and English or Shona and English. Secondly, the translation between Ndebele and English has thus far been necessary and frequent in commercial, scientific, political and administrative texts and not in music to make translation a function of a Ndebele music dictionary. More important, equivalents on their own are inadequate to facilitate translation in any direction between either Ndebele and English or Shona. According to Burkhanov (2004), this is the major limitation of using dictionaries which are not translation-oriented for translation activities.

A claim cannot also be made that the equivalents in the ISM have been provided to aid foreign language text production because the abundance of English musical terms dictionaries makes musical text production in English well-catered for. Similarly, the provision of Shona equivalents in the ISM is not even meant to aid text production in Shona because Shona music practitioners are better qualified for such a task than their Ndebele counterparts for whom the ISM was compiled. In the ISM, equivalents assist Ndebele native speaking music practitioners to understand Ndebele terms via English or Shona, depending on the source language from which the Ndebele term was derived. This is particularly apparent for English which has been the language of communication in virtually all specialised, formal, academic and professional activities. Such a scenario is notable with the *Nuwe Woordeboek Sonder Grense*, co-edited by Gouws, Stark and Gouws (2004), whereby English is used as a communication bridge for learners of Afrikaans who are native language speakers of African languages in South Africa (Gouws 2004a: 273, Steyn and Gouws 2005).

Similarly, translation and foreign language text production cannot be the real functions of the NLLTD which will remain a monolingual dictionary despite including English equivalents. Translation in the subject fields which the NLLTD should treat is unlikely while the production of texts in English would better be done using English dictionaries. The provision of English equivalents in the NLLTD would aid students, teachers and lecturers to understand Ndebele terms better via English equivalents since the English

medium has directly and indirectly been used in Ndebele linguistic and literary studies. It would be easier for the students to remember the new Ndebele terms if they started with the English ones which they have used for a long time. Thus both text production and text reception in the native language would be addressed. The user may know what he/she wants to write about in English and in that case, the English equivalent becomes an indicator of the right Ndebele term, thereby getting guidance in text production. The user may also be uncertain about the Ndebele term in the text but after seeing the English equivalent, text reception would be ascertained. English equivalents are therefore relevant data categories in the NLLTD. However, for those who have not used the English terms, this is not really helpful as argued in the previous chapter about transliterations, but Ndebele lemmata and definitions would be adequate to cater for their reception and production needs.

6.2.2.3 Semantic Relations: Synonyms and Hyponyms

This section focuses on synonymy and hyponymy as semantic relations which LSP lexicographers and particularly the NLLTD compilers have to consider in their provision of data categories. It was noted in the previous chapter that Ndebele linguistic and literary terminology cannot totally eliminate synonymy as a result of lack of standardised terms, and in 5.5.4 in particular, it was therefore argued that although lexicographers have to be cautious, they should list synonyms as lemmata in LSP dictionaries. In view of this, where at least two lemmatised terms are synonymous, lexicographers would save space by treating one of them as the main term and others as lesser synonyms. This entails giving a complete microstructural treatment to the main term and then using it as the main comment for the lesser synonyms, provided that they share all the other features. In addition to saving space, this would create a balance between prescription and description, leading to a proscriptive approach mentioned in 5.5.5 and 5.5.6 in respect of the lemmatisation of synonyms and variants. When it comes to lexicographic treatment of such items, the recommended or standard lemmata should be fully treated and the less recommended be cross-referenced to the fully treated lemmata. This approach facilitates both text reception and text production. For example, the user who encounters a lesser synonym in a text is able to find its meaning in a dictionary which does not prescribe

only standardised and acceptable terms. However, the full treatment of the standard and recommended items and their use as synonym definitions also help the user to know which of the synonymous terms should be used in text production.

Probably another semantic relation that has to be captured in an LSP dictionary is that of hyponymy. This would conform to the point made in the previous chapter that lemma selection should complete paradigms in the sense of listing all terms designating conceptual relations of superordination and subordination in the form of types and examples of concepts or objects. The *genus-differentiae* definitions can capture this form of relationship among LSP terms or concepts of a subject field. The ISM also used cross-referencing to indicate this type of relationship whereby, for example, the article headed by *ivayolini* (violin) contains a reference to the terms denoting the types of violins in whose articles it is clearly indicated that they belong to the same class. The NLLTD should also help users note such relationships among linguistic and literary concepts because the relations are not only semantic but also encyclopaedic. The example of *isiphawulo* (relative adjective), *isibaluli* (relative descriptive), *ubumnini* (possessive) and *inani* (quantitative) as types of *izichasiso* (adjectives) where completing paradigms would be necessary, which was used in 5.5.4, is also appropriate here. In a way, this would be a noble procedure of satisfying the cognitive functions of the dictionary.

6.2.2.4 Lexicographic Labels

Lexicographic labels generally indicate deviation from the default focus of a dictionary whereby the unmarked lemmata represent the default, standard, central or neutral focus of the dictionary (Bergenholtz 1995: 131, Gouws and Prinsloo 2005: 129 and Mavoungou 2005). Without any deviations, labelling would not be necessary because users become aware of the standard and default target of a dictionary the moment they choose it for their use. Various types of lexicographic labels have been discussed by the scholars referred to in this section, but focus will be on the diatechnical or field labels which are usually addressed at LSP elements. On the other types of labels, the cited sources provide adequate information which indicates that the labels are not specifically related to LSP

lexicography. For example, the provision of word-class information discussed in 6.2.1.3 results in labels, but that discussion needs no repetition here.

Although LSP elements are usually marked by means of diatechnical or field labels to indicate the subject fields to which they belong, this is usually relevant in general dictionaries where such items have to be distinguished from LGP elements. In single-field LSP dictionaries, it would not be necessary since all lemmata fall within the scope of the particular LSP. However, the labels may be necessary in the case of multi-field dictionaries to indicate the specific subject fields in which particular lexical items are used. In this regard, the NLLTD may use diatechnical labels to indicate whether lemmata are linguistic or literary terms. The possibility of further indicating sub-fields such as phonetics, phonology, morphology, semantics and so on for linguistic terms remains open. This may help to confirm whether or not the user is looking at the correct lemma, thereby contributing to both text reception and text production.

However, the compilers of the NLLTD should consider the need of providing such data in view of other lexicographic considerations. A minimalist approach would result in only two labels being used: one for linguistic terms and the other for literary terms. This can be achieved with consistency only if a clear-cut distinction between linguistics and literature could be achieved. Bearing in mind that both deal largely with written language, it might not only be difficult in some cases, but also unnecessary. A maximalist approach which would result in terms being labelled according to particular domains of linguistics and literature can be done, but for a community such as Ndebele where scholarship in those fields is not very advanced, it may only be useful to experts at the expense of non-experts users of the dictionary who are actually the majority. Considering these issues, it may be better to leave out labels as data categories in the NLLTD. However, the important information that such data categories provide may be incorporated in the encyclopaedic definitions by stating the very specific sub-domains of the fields in which the terms are used.

6.2.2.5 Word-Combinations

The comment on semantics may also provide the user with guidance on the use of lemmatised words and terms by presenting them in typical combinations with others. These are called cotext entries (Gouws and Prinsloo 2005: 127) and they are necessary for text production in that they elucidate on meaning and depict the syntactic environment and usage of the lemma. They include collocations, example phrases and sentences. Bergenholtz (1995: 117-126) provides an insightful discussion on collocations and their lexicographic employment as data categories. He notes that not all word-combinations are collocations since other combinations are trivial and that a collocation to one linguist may not be one to another linguist. Phrasal or sentence examples can be drawn from a corpus or be created by lexicographers. The advantages and disadvantages of corpus-based examples vis-à-vis those created by lexicographers have been discussed by Khumalo (2002) and Hadebe (2006: 107-108, 221) with reference to Ndebele lexicography and the ISN in particular. In the next paragraphs, focus is on the provision of word-combinations, particularly examples, in LSP dictionaries.

Since illustrating word-combinations provides information on the actual usage of lemmatised items in a dictionary, it is useful for text production. In view of the problems associated with collocations discussed by Bergenholtz (1995), it would be difficult to talk about them in the case of an unstandardised terminology which has not been used consistently in writing. This is also noted by Carstens (1997: 22) in her discussion of issues involved in the planning of a multilingual explanatory dictionary of chemistry.

The notion of examples in LSP dictionaries needs clarification, particularly in the context of communities with a young dictionary culture. Because definitions in LSP dictionaries are at times encyclopaedic and long, they tend to give examples of concepts represented by the defined terms. Such examples are not examples of usage. In 2007 University of Zimbabwe lexicography students wrote essays on the use of illustrative examples in the ISM and the DRM, most of them criticising the compilers of the two musical terms dictionaries for poor examples. This was unfortunate because the two dictionaries do not provide illustrative examples as data categories. Rather, they give examples of concepts

defined as part of the encyclopaedic “quasi-extensional definitions” (Carstens 1997: 19). Examples of usage are not part of the definitions but separate data categories “used only when necessary to complement the definition in clarifying the headword ... to illustrate meanings or uses” (Khumalo 2002: 273). When lexicographers construct their own examples, they try to capture lemmatised items in their usual environment of use. Instead of constructing own examples, lexicographers may draw examples from a corpus which will give real instances of the lemma in use. The ISN relied on both types of examples.

In the case of the NLLTD, examples of usage can only be constructed by lexicographers as there is no LSP corpus for the dictionary or substantial literature which can capture the actual usage of terms in the two subjects. The idea of collocations is therefore feasible in a community where a substantial body of literature exists in the subject and in the concerned language. For Ndebele, this can only be a reality after the production of text books which actually need the NLLTD for terminological guidance. The compilers of the NLLTD should therefore make their definitions encyclopaedic enough to clarify the defined concepts in a manner that would enable text producers to combine terms with other words in real texts. The encyclopaedic section of the dictionary should also contribute in this respect. Moreover, text producers in the sense of textbook writers are not expected to have problems in combining terms with words while those who may have such problems are outside the user profile of the NLLTD.

6.2.2.6 Pictorial Illustrations

The semantic value and lexicographical functions of illustrations in dictionaries have been adequately appreciated in metalexigraphy. The works of Gouws (1994), Gouws and Prinsloo (2005) Gangla-Birir (2005) and Yong and Peng (2007) are some examples. According to Yong and Peng (2007: 26), the use of pictorial illustrations is one of the basic ways of presenting information in a dictionary. Pictorial presentation, in terms of Yong and Peng (2007: 75) should be understood broadly and inclusive of all forms of linear and non-verbal presentations such as a dot, a line, a table, a diagram, a drawing or a photograph. According to Gangla-Birir (2005: 48) illustrations add to the communicative value of the dictionary. This means that they elucidate on data categories

in the comment on semantics by conveying the meaning content of lexical items with adequacy, precision and brevity and this should not be mistaken to say that illustrations satisfy communication-oriented lexicographic functions. Instead, they satisfy mainly the cognitive functions.

Because of their encyclopaedic nature and functions, LSP dictionaries can enhance their definitions through the use of illustrations. All LSP dictionaries compiled at ALRI have used illustrations, although they have not placed them against the defined lemmata but as part of back matter. Illustrations presented as microstructural data after definitions are more effective than those presented separately and according to Yong and Peng (2007: 76), illustrations can be effectively used as the only semantic data category. Illustrations are thus regarded as a form of ostensive definition (Zgusta 1971: 256), Gangla-Birir 2002: 38, Gouws and Prinsloo 2005: 146). In 6.2.2.1, it was recommended that as ostensive definitions, illustrations should be used in the NLLTD together with other types of definitions in order to give factual information about the terms. This has already been done in all LSP dictionaries produced by ALRI. As it has been mentioned that pictorial illustrations should not be taken to mean pictures only, the NLLTD should consider using other forms of illustrations such as chain diagrams for phonological processes such as coalescence or sequential relationships in plot development in a novel for example. Given the cost of positioning them adjacent to relevant lemmata, illustrations may be presented in a separate text or alternatively in the encyclopaedic section of the dictionary. In all ALRI dictionaries, illustrations are presented in the back matter. Lack of proximity between illustrations and relevant articles may be considered disadvantageous as far as accessibility is concerned. To compensate for this, the ISM linked illustrations with the relevant articles by means of cross-referencing. This is discussed in more detail in Nkomo (2008).

6.3 Conclusion

This focus of this chapter has been on the provision of data categories in the NLLTD as an important lexicographic activity within the envisaged theoretical model for LSP lexicography in Ndebele. A strong case was made that lexicographic functions should

always guide lexicographers in making decisions regarding including or providing data types as there is a correlation between them and particular data categories. The chapter therefore offered a theoretical exposition to the notion of lexicographic functions as well as their relations with particular data categories. However, it was also shown that the linguistic features of a language and subject field in which an LSP dictionary is compiled are equally important factors to consider. Given this, the best way to conclude this chapter would probably be by making reference to Tarp (2000: 198) who argues that:

. . . the only way to reach a scientific conclusion of what should be included in a dictionary is to base this conclusion on an analysis of the user, the user characteristics, the user situations, the user needs and the corresponding lexicographic functions.

This cannot only be true for the NLLTD and LSP lexicography in Ndebele but lexicography in general if the quality of dictionaries has to be improved to the extent that they become knowledge providers and communication tools.

CHAPTER SEVEN: CONSIDERATIONS ON DICTIONARY STRUCTURES

7.0 Introduction

The thesis has so far considered issues regarding possible contents of LSP dictionaries in Ndebele, with Chapter Five dealing with lemma selection while Chapter Six dealt with various data categories which may be addressed to individual lemmata. For a lexicographic model, this meets the requirements of a traditional approach to lexicography which only focused on the contents of dictionaries. The deficiency of this approach is cautioned against by Gouws (2004: 68) when he asserts that:

...the success of a dictionary consultation procedure does not only depend on the relevant data being included in the dictionary. Access to the data is a prerequisite ... Not only the data included in a dictionary but also the structuring of the dictionary and the positioning of the data as entries determine the quality of the dictionary as a utility instrument.

Gouws goes on to argue that an evaluation of a dictionary as a knowledge container should focus on both the container and the knowledge. Similarly, planning a dictionary should go beyond contemplations on its possible contents and reflect on how the dictionary would be structured, how the contents would be spread over different access positions and how the user will be guided to access the data.

This chapter considers dictionary structures. It may be argued that of the various types of dictionary structures, data distribution and access structures are central to the chapter. Planning dictionary structures presents guidelines to assist the lexicographer in designing a suitable dictionary model for accommodating relevant data types. Data distribution, in turn, determines the success of the user in retrieving the sought information. Four main levels of dictionary structures namely the macrostructure, the microstructure, the frame structure and the mediostructure form the main sections of this chapter. Although the data distribution structure and the access structure are none of those, it will be notable that they are the ones negotiated in each section. Not only the data candidates for the NLLTD, which remains the main reference, but also its prospective users; their situations, their reference needs and their reference skills will be constantly brought to the fore. This

approach should be adopted for all LSP dictionary projects in the language, as well as other types of dictionaries.

7.1 The Macrostructural Arrangement

The macrostructure of a dictionary relates to the structure of the central list which is to some extent influenced by lemma selection policies. For the NLLTD, some of the issues raised in the previous chapter are worthy of consideration. Subsection 7.1.1 considers an alphabetic macrostructure while Subsection 7.1.2 considers a thematic one. The implications of each method for a particular dictionary project, should determine the option between the two of them. Subsection 7.1.3 illustrates this by making reference to the NLLTD.

7.1.1 An Alphabetic Macrostructure

An alphabetically arranged macrostructure is one of the most common features of modern dictionaries regardless of their type. Arguably, average dictionary users consider it not only as an easy method but as the only method. Consequently, some lexicographers consider it “a sin not to use the alphabetic arrangement principle, since it is a prerequisite for the safe and quick consultation of dictionaries” (Nielsen 1995a:190, referring to the preface of Grimm’s dictionary). Its advantages are not only enjoyed by the user alone, but by the lexicographer as well. With computer tools, the lexicographer can work on large volumes of lexical items; providing them with lexicographical treatment and when done, just sort them in alphabetical order. On the other hand, the user basically needs to master the alphabet of the lemmatising language in a dictionary. This way, an alphabetic macrostructure is popular with both lexicographers and dictionary users.

However, there are other considerations that have to be taken into account regarding alphabetic macrostructures. Additional letters from languages other than the lemmatising one, capital letters, hyphens, numbers, place-holding spaces in lemmata and other symbols such as punctuation marks tend to affect the alphabetic arrangement of dictionary lemmata. Consequently, Nielsen (1995:190) argues for a distinction between the general alphabet of a language and the access alphabet of a specific dictionary in the

same language. The access alphabet of a dictionary should therefore clarify the treatment of extra-alphabetic items in the creation of an alphabetic macrostructure. Basic guidelines are given by Nielsen (1995) and Gouws and Prinsloo (2005). Only those that are applicable to Ndebele lexicography will be considered shortly.

One of the widely used extra-alphabetic symbols in Ndebele is a hyphen. The hyphen is used to indicate sublexical lexical status of prefixes, concords and suffixes. In other languages such as English, it is also used to break compound words. This represents a typical use of the hyphen whereas its use as a place-keeping symbol is a specific lexicographic use. The lemmatisation of sublexical lexical items in a Ndebele dictionary presents the hyphen as part of the access alphabet of that particular dictionary. In the ISN, prefixes, suffixes and other formatives with productive potential in the language were lemmatised with hyphens either on their right-hand or left-hand side. Verbs were also lemmatised according to their roots, with the hyphen serving as a place-keeping symbol for other formatives such as concords. This resulted in what is referred to as pre-hyphenated and post-hyphenated lemmata (Gouws and Prinsloo 2005: 99, referring to Gouws 1989). A strict alphabetic ordering of lemmata in the ISN is not based on the general alphabet of a language but on the access alphabet of the dictionary. Consider the following partial article stretch from the ISN:

A bz 1a. ...
aba- isakh. ...
-aba sz mwa. ...
ababusi bz 2. ...

In the above article stretch, **aba-**, the class 2 prefix precedes **-aba**, the verb stem for *steal*. Thus post-hyphenated lemmata precede pre-hyphenated lemmata. Because the hyphen “does not have an own value within the access alphabet” (Gouws and Prinsloo 2005: 98), it is only used as a form of marking. It affects only the ordering of identical lemmata whose only difference becomes the presence and/or position of the hyphen (Gouws and Prinsloo 2005: 99). Thus **ababusi** (governors) cannot precede **aba-** (class 2 prefix) just because the hyphen in the latter is preceded by the third letter /b/ in the former. This would be a violation of a general lexicographic guideline for the ordering of lemmata. It would also be user-unfriendly, given that all pre-hyphenated lemmata would

have to be preceded by the article stretch *Zz*. In that case, the general mastery of the alphabet of a language would be inadequate for average dictionary users.

Another observation concerning the access alphabet of the ISN can be drawn from the following article stretch:

O bz 1a. ...
o- isakh. ...
o- isakh. ...
o sbbz ...

The observation that can be made regarding the above partial article stretch relates to two issues about the ISN access alphabet. First is the issue of marked lemmata versus unmarked lemmata. Nielsen (1995) and Gouws and Prinsloo (2005) concur that unmarked lemmata should precede marked lemmata in cases where lemmata are constituted by the same letters of the alphabet. This means that the hyphenated lemmata **o-** (class 2a prefix) and **o-** (relative descriptive prefix) should have been preceded by the fourth lemma in the stretch, **o** (an exclamation) which is unmarked. Another issue is the impact of capital letters versus small letters in the article stretch. Because small letters are usually used as part of the default method of lemmatisation in many dictionaries, lemmata with capital letters should be considered as marked. It follows therefore that they should be preceded by lemmata in small letters, which assume the default presentation method. Had this been the case in the ISN, lemma **O** (vowel /o/) in the above partial stretch would be located after the fourth lemma, which probably would be the first given that it is the only one unmarked of the four lemmata in the article stretch. It may thus be observed that the ISN compilers used a totally different approach. However, the overall impact on the accessibility of lemmata as a result of this approach has not been assessed so far and is not as easy as observing that the approach is different from the one recommended in metalexicographical literature. Nevertheless, the observation is important for LSP lexicography in Ndebele where sublexical lemmata would be prevalent. For the NLLTD, Chapter Five noted that there may be need to lemmatise prefixes, suffixes and other formatives as part of linguistic terms. The lexicographer should adopt decisions that will facilitate access to such lemmata without complications.

Another consideration regarding access alphabets of LSP dictionaries would relate to spaces between multi-lexical lexical items. While these are notable in general language, particularly idiomatic expressions, they are more prevalent in LSP varieties whereby some concepts are designated by multi-word lexical items. This has been amply shown in Chapter Five in the case of Ndebele linguistic and literary terms. The lemmatisation of such items, together with single-word terms, can be challenging due to blank spaces between their components. The ISM partial article stretch ranging from the lemma *ingoma* (song) up to *ingomabafi* (requiem) contains lemmata such as *ingoma yeNxwala* (first-fruits ceremony song), immediately after *ingoma*, and *ingoma zokuzingela* (hunting songs) immediately before *ingomabafi*. The staff editor who was responsible for the ISM at Mambo Press queried this order arguing that *ingomabafi* up to *ingomasililo* (elegy) should have preceded *ingoma yeNxwala*. Her argument was that the second word in *ingoma yeNxwala* begins with letter /y/, which alphabetically comes way after letters /b/, /n/ and /s/ coming immediately after the vowel /a/ in *ingoma* in lemmata such as *ingomabafi*, *ingomanyoni* (nature song) and *ingomasililo* respectively. This was a meticulous observation. However, the empty space between multi-word lemmata in the ISM is considered to be preceding the first letter /a/ of the general Ndebele alphabet. Strict alphabetic ordering relates to the access alphabet of a particular dictionary rather than the general alphabet of the language. Therefore, there is nothing wrong with the alphabetic order of the ISM lemmata, contrary to the complaint by the Mambo Press editor. What actually led her to consider the arrangement as improper is the fact that the ISM editors did not explain the access alphabet of the dictionary clearly enough to inform the users of such an issue.

Notwithstanding the foregoing, the user-friendliness of alphabetically arranged lemmata has been appreciated by the users of Ndebele dictionaries (Maphosa 2003, Nkomo 2003). Fieldwork for this study seems to concur with the earlier studies, although the value of thematic ordering (7.2.2) is being recognised, especially in LSP dictionaries. Probably this is because of the fact that fieldwork involved students of lexicography. Responses to Question 9 in Questionnaire 2 were not absolute about the choice between alphabetic ordering and thematic ordering, but were generally critical of both methods. Given such

developments, it becomes crucial for Ndebele lexicographers to consider those merits and demerits of each method in their tasks as dictionary compilers and also in the dictionary users' search for information. The next section deals with a thematic macrostructure.

7.1.2 A Thematic Macrostructure

A thematic macrostructure is based on the relatedness of lexical items derived from the concepts they represent in a particular knowledge structure. Its basis and manifestation is clearly articulated by Nielsen (1995a: 195) in the following quotation:

... arrangement is according to conceptual systems based on definitions, which among other things, serve to delimit the concepts relative to each other as well as to establish their mutual relationships. Hierarchical relations may either illustrate superordination, subordination or co-ordination. The place of the individual concepts in a conceptual system will determine the structure of lemmata in the dictionary word list.

In terms of McArthur (1986a: 164), thematically arranged macrostructures have pedagogical, philosophical as well as linguistic-cum-semantic foundations, which are probably shared by all forms of learning which dictionary use may facilitate. However, it is erroneous for Nielsen to term a macrostructure conceived this way as a systematic macrostructure. This may suggest that an alphabetical macrostructure is not systematic, yet the alphabet is a system on its own. Yong and Peng (2007) call it the semantic approach.

The main strength of a thematic macrostructure is derived from the main limitation of an alphabetical macrostructure, which is expressed by Nielsen (1995a: 199) in the following words:

It is a disadvantage of the alphabetic principle that it upsets subject-field systematism, as concepts occur out of context in an arbitrary order, thereby precluding the illustration of conceptual relations. From the point of view of the user, this must be considered unfortunate, since he is not given an overview of the subject field in question ...

It suffices to add that the upsetting of subject field systematic orders is unfortunate for LSP dictionaries with cognitive functions, in addition to translation and reception noted by Nielsen. Nielsen (1995a: 199) adds that a thematic macrostructure provides the user

with an overview of the subject area, as related terms follow each other, thereby making relationships between terms more clear. Such an arrangement may be very helpful for users who consult a dictionary in order to get both general and special information about subject fields, as is projected for the NLLTD. A thematic macrostructure therefore needs to be strongly considered for LSP dictionary projects as an alternative to the now popular alphabetic arrangement. However, McArthur (1986a: 157) objects to the view of treating the thematic arrangement principle as an alternative. Firstly, he argues that the principle is as old as lexicographic practice itself, a fact that is also acknowledged by Nielsen (1995), Gouws and Prinsloo (2005) and Yong and Peng (2007). Secondly, he argues that the misinformed view of the thematic principle as an alternative is evidence that it is not a spent force as it has ready answers for the problems of alphabetical ordering. McArthur's argument seems to be that the introduction of the alphabetic principle created problems which were unknown earlier on. However, he is also well aware of the challenges posed by the thematic principle.

In spite of the merits of the thematic ordering mentioned in the preceding paragraph, the alphabetical arrangement dominates lexicography, including LSP lexicography. The major reason for this are the advantages which the principle presents for the lexicographer and the user, as noted in the previous subsection. Thematic ordering, on the other hand, requires users to have high encyclopaedic competence in the subject field and its corresponding LSP. As a result, dictionaries with thematic macrostructures usually provide alphabetic indices to make dictionaries poly-accessible. A user with high encyclopaedic and LSP competence in the subject area can use the thematic macrostructure while a less competent one has to go via the alphabetic index. This should be seen as an important lexicographic innovation. However, the challenges of the thematic arrangement principle do not end there. Nielsen (1995a: 195) contends that:

In certain branches of science, notably the social sciences, however, it may be difficult to uncover the often extremely complex relations involved and to present the result in orthodox conceptual systems and systematic lists.

What this means is that not the entirety of LSP lexicography can adopt the thematic arrangement principle. Supplementing thematic macrostructures with devices such as

circles, brackets, arrows, schematics and so on for exceptional relations may increase the density of the microstructure and deter information retrieval, as will be argued in 7.2. Besides this, “systematic processing of comprehensive subject areas and their terminologies is both a time-consuming and resource-demanding process” (Nielsen 1995: 198). These are the important considerations that need to be made in connection with the thematic arrangement principle for LSP lexicography. The next subsection considers the thematic arrangement principle alongside the alphabetic one in view of the NLLTD.

7.1.3 Implications for the NLLTD

The development of LSP lexicography, or lexicography in general, should heed McArthur’s (1986a:165) recommendation concerning the arrangement of lemmata in dictionaries:

The two modes need not to be seen as rivals, but as complementary approaches to the same deeply intractable material – the lexis of any natural language.

First of all, complementariness should be taken to mean the possibility of using either of the modes for a specific dictionary. This implies that the compiler has to consider the advantages of one mode over the other as well as its disadvantages in view of a specific dictionary with specific target users. Secondly, treating the approaches as complementary may also imply the possibility of creating a macrostructure which displays elements of both modes. The two modes would complement each other to a certain degree such that one of them would clearly be dominant for a particular dictionary. A case in point is made by Nielsen (1995: 198) about the French-Danish/English-Danish/German-Danish Administration of Justice Dictionary of which the alphabetic macrostructure is based on a hierarchical structuring of concepts. Such a macrostructure offers the users with advantages of the two modes in one dictionary. However, the advantages would be enjoyed at a higher cost in terms of labour on the lexicographer’s part and also high level of reference skills on the user’s part. More so, dictionary-specific aspects such as the subject fields for which the dictionary is compiled, dictionary size, in addition to the reference skills of the users need to be taken into account.

Given the specific cognitive functions which need to be considered for the NLLTD and the exposition in 7.1.1 and 7.1.2 above, a thematic macrostructure would be the best for the NLLTD as an LSP dictionary. During the focus-group discussion, as well as in the questionnaires, some participants and respondents were very critical of the main limitation of an alphabetical macrostructure, namely that it upsets the conceptual structure of a subject field of which the LSP is treated in an LSP dictionary. They argued for a thematic arrangement of linguistic and literary terms in the dictionary. However, their preference is based on the advantage that the method offers to them as potential users and does not consider whether or not their reference skills and those of other users would always be adequate for information retrieval from such a macrostructure. A high level of competence in either linguistics, literature or both would be required for the user to have an idea of where a specific term would likely to be located depending on the place occupied by the concept it represents in the knowledge structure. In the NLLTD user profile, not all of the users possess such competence. However, the lexicographer may employ other strategies to facilitate the access of the users to lemmata by providing an alphabetic index, for example. This would make the NLLTD poly-accessible. Highly encyclopaedically competent users who would be comfortable with the thematic macrostructure may use it to search for lemmata while less competent users may have to go via the alphabetic index.

The arguments in the preceding paragraph apply on condition that a thematic macrostructure could be successfully created. It is very important to consider the implications of creating a thematic macrostructure on the lexicographer's part. The NLLTD should provide lexicographical treatment of the vocabulary of two subject fields which are, however, closely related. Although the subject fields are closely related, their vocabularies cannot be processed into a single terminological structure. This implies that adopting a thematic arrangement principle for the NLLTD would result in at least two word-lists; one for linguistic terms and another for literary terms. A thematic arrangement of each word-list would also require further subdivisions to reflect on the systematic classification of each subject field. This should be borne in mind against the challenges of knowledge classification in general and the linguistic and literary fields in particular

which were demonstrated in 5.1. This is basically a characteristic problem for social sciences. Consequently, dictionaries of linguistic and literary terms tend to employ alphabetic macrostructures regardless of the fact that some of them are premised on cognitive functions, which are better achieved with thematic macrostructures.

The NLLTD probably has to forego the advantages of a thematic macrostructure and adopt an alphabetic macrostructure. Besides the fact that most English dictionaries that are used in the Ndebele community have alphabetic macrostructures, the three Ndebele dictionaries currently in circulation, one of which is an LSP dictionary (the ISM), also have alphabetic macrostructures. The available literature on Ndebele lexicography shows that the principle is generally user-friendly. The PND is however, an exception as it lemmatises nouns according to the first letter of the stem. For users who do not command a good knowledge of the structure of the noun, it is really difficult to predict the letter under which a particular noun is lemmatised. Thus an alphabetic arrangement of all lexical items as full forms (pre-hyphenated and post-hyphenated lemmata included) will facilitate easy access to lemmata for the users. This is the major reason that was forwarded in favour of the approach during the focus-group discussion and in the questionnaires.

Considering the lexicographer's position, an alphabetic macrostructure remains a more viable option considering that it is economical as far as skill and time is concerned. This is in stark contrast to a thematic macrostructure which has to be preceded by a thorough systematic classification of the subject field, which is not always achieved with required coherence and systematicity. There is, however, another dimension in which an alphabetic macrostructure may be uneconomic. It tends to consume a lot of space compared to the thematic one where some terms can be easily defined in terms of others in a terminological structure. This is particularly true if a vertical lemma file is employed. Therefore, an alphabetic macrostructure is a more viable option for the NLLTD. However, it is certainly not the best for all dictionaries, especially LSP dictionaries with cognitive functions. An alphabetic macrostructure is simply more suitable given the reference skills of the users as well as economic factors namely labour and time on the

part of the lexicographer. A clear overview of the linguistic and literary fields which could be achieved by means of a thematic macrostructure would be sacrificed because both its costs and benefits cannot be ascertained. It is difficult to guarantee whether a meaningful thematic arrangement would be possible for the two subject fields, given classification challenges and whether the resultant macrostructure would be accessible, given the encyclopaedic competence of some users. As for the alphabetic arrangement, the advantages of easy creation on the lexicographer's part and easy access on the user's part are obvious. So are its disadvantages; that of upsetting subject fields and consuming more dictionary space. Providing a comprehensive encyclopaedic section in the front matter, discussed in Section 7.3 and completing paradigms by indicating such conceptual relations between terms through the use of synopsis articles and a meticulous mediostructure, argued for in 7.4, are some of the effective ways of countering the main disadvantages of alphabetic macrostructures. However, as it develops, LSP lexicography in Ndebele should always have thematic arrangement as an open macrostructural option. For dictionaries in natural sciences it would always be the best and this would be supported by growth in the dictionary culture of the community. It should also be noted that alphabetic macrostructures can be more challenging as far as data presenting and access to it is concerned, particularly when it comes to niching and nesting (Gouws 2002, Gouws and Prinsloo 2005).

7.2 The Microstructure

Microstructural considerations, which are concerned with the structure of individual dictionary articles, have been partly addressed for the NLLTD in the previous chapter which discussed the relevance of particular data types as part of dictionary articles. Although the chapter did not prescribe the inclusion or exclusion of particular data types, it demonstrated that the decisions should primarily be informed by specific lexicographic functions of a dictionary. The arguments for or against the inclusion of individual data types were based on their relevance in view of the lexicographic functions which ought to be served by the NLLTD. The approach is not only relevant to LSP dictionaries, but to all dictionaries as utility products.

Following Wiegand (1989: 427, referred to in Gouws and Prinsloo 2005: 116), it can be said that of the entries that constitute a microstructure, the thesis has addressed the issue of items. Items are those entries from which the dictionary user can retrieve some information regarding the subject matter of the specific dictionary (Gouws and Prinsloo 2005: 116). There is still a pending need for the thesis to address the issue of indicators or structural indicators because they may deter access to data if used in an unfriendly way. This also applies to the arrangement of microstructural entries in dictionary articles. It should be systematic.

7.2.1 Structural Indicators

Structural indicators are not entries from which the user can retrieve information regarding the subject matter of the dictionary but they are those entries that mark a specific item or indicate a specific search field in a dictionary article (Gouws and Prinsloo 2005: 116). They help the user to identify items, data categories and search fields which constitute an article. A major distinction has been made between typographical structural indicators and non-typographical structural indicators. The former relate to different font types and styles, small caps, capital letters or even font colour by means of which specific items, data categories or search fields in the article may be identified and distinguished from each other. The latter are brief headings, symbols and signs such as punctuation marks, abbreviations, dots, circles and other shapes which are used to mark a specific field or data category in a specific dictionary. Both typographical structural indicators and non-typographical structural indicators play an important role in the inner access structure of a dictionary. Against this background, a model for a specific dictionary should include details of how structural indicators would be employed as part of the dictionary microstructure. Such decisions should be addressed in the dictionary conceptualisation plan.

Typographical indicators such as bold print for lemma signs and regular print for the rest of the data items are generally shared by most dictionaries regardless of languages and types. Some dictionaries, particularly those intended for use by children, would highlight lemma signs by means of colours which would be brighter than that of other items and

data categories. The use of other font styles such as italics usually varies with dictionaries. Also varying considerably according to dictionaries of different languages are non-typographical indicators, particularly symbols and abbreviations of guiding words in that particular language. When planning the use of structural indicators in a new dictionary, it is important to consider those used in existing dictionaries of the same language, taking into account the skills of the target users of the new dictionary. This would inform the compiler of a prospective dictionary whether or not there would be a need for innovations and additions.

The employment of structural indicators in the NLLTD and other future Ndebele dictionaries of different types should be based on an analysis of structural indicators used in the ISN, the ISM and to some extent, the PND. Attention should also be given to new ideas. While there is nothing peculiar about the use of typographical structural indicators in the ISN, non-typographical indicators had to be devised for the ISN as the first monolingual dictionary in Ndebele. The PND which was the sole predecessor in the language has English as metalanguage. Type of speech markers and other abbreviations which mark certain data categories in dictionary articles are part of this metalanguage. While some of the non-typographical indicators for the ISN were adopted from Zulu dictionaries, the lexicographers had to establish others which are likely to be part of the metalanguage of Ndebele dictionaries for a long time. The following table shows how structural indicators are used in the ISN.

Item/Category	Structural Indicator
headword/spelling	bold print
type of speech label	abbreviation such as bz 5, sz mwa
definition	full sentence in regular print with the defined word in italics
sense discrimination	numbers in bold print before definitions
cross-reference	BONA (see)
lesser variant	enclosed in square brackets after the lemma sign
preferred variant	after BONA(see) in the semantic field of a lesser variant
synonymy	FAN, abbreviation for ‘amagama alengcazelo ezifananayo’ (synonyms)
lesser synonym	italicised, after FAN at the end of the semantic field of a preferred synonym
preferred synonym	after BONA (see) in the semantic field of a lesser synonym
usage example	italicised sentence after definition

Table 6: ISN Items/data categories and structural indicators used.

Previous research has indicated that Ndebele dictionary users are generally comfortable in using the dictionary (Maphosa 2003, Ncube 2002 and Nkomo 2003). Even the focus-group discussion and responses to Question 4 of Questionnaire 2 devised for this study express the same comfort. The use of typographical indicators effectively distinguishes different items and data categories. Lemma signs are clearly in bold while the rest of the article is in regular print, except for sense discrimination markers which are also in bold and the illustrative examples, synonyms and the defined words in the definitions which appear in italics. Although the last three are in italics, their positions in the article as well as their non-typographical indicators clearly distinguish them from each other. Of those three, the first occurs within the definition of the lemma and italicisation makes it distinct from the rest of the words in the definition. Usage examples occur at the end of the semantic field and being in italics makes them distinct from the rest of the items and data categories which are generally in regular print. Synonyms come after the abbreviation ‘FAN’ which stands for ‘amagama alengcazelo efananayo’ (words with similar meanings). Since ‘FAN’ is in capital letters, it is easy to see and the italicised synonyms after it cannot be mistaken for other items which appear in the same font style.

The use of non-typographical indicators in the ISN can also be regarded as user-friendly. Non-typographical indicators in the ISN include abbreviations such as (FAN) which is used to indicate synonymy, bz for ibizo (noun) and sz for isenzo (verb), among others used to mark word-class, numbers used for sense discrimination in the case of polysemous lemmata, square brackets in which variants are enclosed and 'BONA', which is used to mark cross-referencing. To start with, 'BONA', in spite of being distinct as it appears in capital letters, is a simple word which communicates unambiguously to the user. If used consistently, which seems to be lacking in the ISN (Nkomo 2007), it cannot give users any problems as far as information retrieval is concerned. The same applies to 'FAN' which indicates synonymy and abbreviations for word-class marking. Once the user understands what it stands for, its consistent use cannot impede access to the respective data category. Similarly, abbreviations such as 'bz', 'sz', 'mwa', 'gmwa' and others which are used for word-class marking do not estrange those users with minimum knowledge of Ndebele grammar, especially after getting their explanation in the front matter. Since this type of grammatical data is presented to assist users who are at secondary school level and upwards, its presentation can be regarded as user-friendly. Sense discrimination is clearly indicated in the case of polysemous lemmata by means of numbers. The ordering of senses is clearly explained in the front matter; usually starting with the most frequent, which in most cases is the primary, followed by the less frequent and most often the metaphorical ones. The user can therefore realise the presence of different senses and choose the most relevant one to satisfy the look up procedure.

From the preceding paragraph, it may be noted that the use of non-typographical structural indicators in the ISN is user-friendly because the indicators are abbreviations of simple everyday words which are familiar to the dictionary users. The only indicator which is not a word is the use of square brackets for variants, but being explained in the front matter and also due to its position, it is not too condensed to impede access. The non-typographical indicators are also complemented by the typographical ones. For example, the distinctness of 'BONA' and 'FAN' lies in the fact that they are in capital letters while that of different senses of the lemma sign in the semantic field lies in the fact that the sense marking numbers are in bold print. From this, it may be concluded that

structural indicators in the ISN are employed in a user-friendly way. This means that the ISN should be the point of departure when deciding on the use of structural indicators in future Ndebele dictionaries.

However, the ISM did not fully adopt the structural indicators used in the ISN. Some innovations and additions were made for the latter dictionary. These were motivated by the need to avoid minor limitations in the ISN, which will be highlighted shortly, and also the fact that the two dictionaries have different lexicographic functions. Having different functions, the two dictionaries do not need to provide exactly the same data categories. Thus, the ISM does not have abbreviations for part of speech marking because such data is not provided. On the contrary it had to devise indicators for data categories that are not provided in the ISN, such as equivalents and etymology.

A closer look at the above table highlights that ‘BONA’ is used for cross-referencing between lexical items sharing two different lexical relations. It is used to refer the user from a lesser variant to a preferred one and also from a lesser synonym to a preferred one. Thus, it may be difficult for some users to realise the existence of the two relations. As a result, ‘BONA’ is used in the ISM quite differently from its use in the ISN. As far as lexical relations are concerned, it is only used for cross-referencing between variants. This is illustrated by the following two article excerpts from the dictionary:

iphiyano [ipiyano] ... *Iphiyano* lichacho lesimanje elilekhibhodi elamakhiye ...
(**piano 1** [piano 2]... A *piano* is a modern instrument with a keyboard and keys...) (ISM: 61)
ipiyano ... BONA *iphiyano*. (**piano 2** ... See *piano 1*. (ISM: 63).

In the above article excerpts, **iphiyano** (piano1) is the preferred variant. The lesser variant, **ipiyano** (piano 2), is enclosed in square brackets to indicate that it is a variant of the lemma sign heading the article. The lesser variant is not defined but simply cross-referred to the preferred form which is defined in full.

Just like the ISN, the ISM also uses ‘FAN’ to indicate synonymy, but with a slightly different effect. A term that is given as a synonym in the article headed by another term is only defined using the preferred synonym in whose article it appears as a synonym. This is illustrated by the two ISM article excerpts below:

umazwakalisa ... *Umazwakalisa* ngumtshina wokuthumeza ilizwi kuwampulifaya okuyindlela yokulikhweza lizwakale liphezulu. FAN *imayikhurofoni*. (...A *microphone* is a gadget that sends sound to the amplifier which is a means of raising its volume. FAN *microphone* 2.) (ISM: 107).

imayikhurofoni ... Umazwakalisa. (**microphone 2** ... Microphone 1.) (ISM: 40).

The term *umazwakalisa* is a coinage and more preferred while *imayikhurofoni* is a transliteration and a lesser synonym for *microphone*. The preferred term is defined in full and its article indicates its lesser synonym after the definition. Consequently, the lesser synonym is defined using the more preferred term in whose article it appears without ‘BONA’. If the user knows the preferred synonym, there is no need to look it up. He/She knows immediately what the term that initiated a consultation procedure means. This also saves space. If these two articles appeared in the ISM, the second one would be as follows:

imayikhurofoni ... BONA *umazwakalisa*. (**microphone 2** ... See *microphone* 1.).

Thus, articles whose lemma signs are related either as synonyms or variants in the ISN are almost identical. This may be seen as a trivial matter, but in some cases a cross-reference definition with ‘BONA’ end up taking two lines. When this is repeated, dictionary space that could accommodate more lemmata and articles is consumed. Besides, the inconsistency with which the procedure is carried out ends up misleading the user (Nkomo 2007). This is one case in which the use of structural indicators in the ISM had to deviate from that of the ISN which was generally the main predecessor.

Besides the above, ‘BONA’ is also used in the ISM for cross-referencing from an article in the main text to the illustration of the lemma in the back matter. BONA *umfanekiso*

(See the illustration) is included at the end of articles whose lemmata are elucidated by means of illustrations. The user is thus referred to the illustrations section so that he/she can have a more lucid picture of the defined term.

As noted above, a number of structural indicators were devised for the ISM microstructure in order to provide users with the assistance which the ISN does not need to provide for its users. The abbreviation 'KHA' which stands for *khangela* (look at or compare) may be noted in the ISM microstructure as part of the non-typographical structural indicators. It may be noted that *khangela* and *bona* can be used synonymously in some contexts. As such, its use was questioned during the focus-group discussion as well as by some questionnaire respondents, arguing that this was a case of inconsistency in the use of structural indicators. However, the structural indicator in question is used differently from 'BONA' in both the ISN and ISM to indicate paradigmatic relations which are not indicated in the ISN between conceptually related musical terms. The following ISM article demonstrates the use of this indicator:

ivayola ... *Ivayola* lichacho lomhlobo wabosontambo elisemulini yamavayolini egoqela ivayolini, itshelo lebhesimbili. Ichacho leli libunjwe njengawonke amavayolini kodwa lona likhupha umculo weyalitho. KHA *ivayolini, itshelo, ibhesimbili*.

(**vaola** ... A *viola* is a chordophone instrument and one of the violins which include the violin, the cello and the double-bass. This instrument is shaped like all violins but it is used to play alto. COMPARE WITH *violin, cello* and *double-bass*). (ISM: 86).

In ISM articles such as the above, the user is not obliged to refer to the lemmata to which the lemma sign of the article is referred to fulfill the initial search procedure, but can do so in order to get extra information about related terms. This is different from the case of 'BONA' where the user is obliged to go to the advised reference to get information which initiated the search procedure. In 5.5.4, completing paradigms was noted as a worthwhile procedure towards the fulfilment of cognitive functions in the NLLTD. In that respect, the NLLTD and other prospective LSP dictionaries in the language may adopt the use of 'KHA' as a structural indicator.

More non-typographical structural indicators were devised to mark translation equivalents and etymology in the ISM in addition to those adopted from the ISN. Shona and English translation equivalents are indicated using abbreviations SH and EN in the ISM articles. The purpose of these data categories has been discussed in the previous chapter.

The ISN also provides etymological data for some lexical items. The etymological data given relates to the language from which a particular term was adopted and the meaning it bore in that particular language. This is illustrated in the following example:

ikhanoni ... <IsiGirikhi: *kanon* 'isilinganiso'>
(...<Greek: *kanon* 'scale'>) (ISM: 31).

In the articles for whose lemma signs etymological data is provided, it is provided in the elbow brackets < >. The first part represents the language from which a particular term was adopted. In the above ISM article excerpt, 'isiGirikhi' is the Ndebele equivalent for *Greek*. Other notable languages from which terms in the ISM have been adopted are French, German, English, Italian and Spanish which are given in Ndebele as *isiFurentshi*, *isiJelimani*, *isiNgisi*, *isiTaliyana* and *isiPanishi* respectively. Following the indication of the source language and after a colon, the word form is given in the source language and in italics. The literal meaning of the original form in the source language is then given in single quotation marks as indicated above.

The foregoing analysis constitutes some of the considerations that should be taken into account concerning the use of structural indicators as entries in the articles of the prospective NLLTD and other dictionaries. The compilation of the ISM was based on the ISN, but it included some innovations and additions in view of some limitations of its precursor as well as its provision for items and data categories which the ISN did not provide. Admittedly, an analysis of the use of structural indicators in the ISM may also reveal some limitations which may be detrimental to LSP lexicography in Ndebele. The compilers of the future dictionaries should assess the extent to which the use of structural indicators in the existing dictionaries is effective for the purposes for which they are used and the extent to which they would be adequate for the prospective dictionary. Here the

thesis has just charted the direction of such a procedure. The point of departure would be the perfection of the just established practice. Additions should strictly be made only for those items that were hitherto not included in existing dictionaries. This would save lexicographers from creating their novel conventions which will mean more tasks on their part as well as new things to be learnt for dictionary users with every new dictionary. A lexicographic community should eventually have its established structural indicators, the use of each depending on the relevance in a particular dictionary. High textual condensation and density of entries in dictionary articles reduces accessibility of data.

7.2.2 The Arrangement of Microstructural Entries

In order to complete a microstructural programme for a particular dictionary during the planning stage, lexicographers should go further than merely identifying microstructural entries in a general way. They should also plan how the entries would be arranged in order to facilitate optimum data access and information retrieval, taking into account lemmata which would be treated by means of an obligatory microstructure and those that would require an extended obligatory microstructure (Gouws 2002a and Gouws and Prinsloo 2005). An obligatory microstructure is displayed by an article that contains the minimum number of entries. According to Gouws and Prinsloo (2005: 141), all single articles in a dictionary will display at least an obligatory microstructure. The following schema, taken from Nkomo (2008a, forthcoming) represents the obligatory microstructure of the ISM:

Lemma → Shona Gloss → English Gloss → Definition

Presumably, given the argument that Shona equivalents would be irrelevant for the NLLTD, its obligatory microstructure would be minus the Shona gloss from the above schema. However, if the compilers realise a compulsory need to include particular data types for all lemmata, then the NLLTD obligatory microstructure would be minus the Shona gloss but plus those data categories which would be provided for all lemmata. This applies to all the prospective dictionaries in Ndebele where the inclusion of particular data categories would be based on their functions.

An extended obligatory microstructure is displayed by an article which contains extra data categories in addition to those contained by default articles displaying the obligatory microstructure. In any dictionary, articles displaying an extended obligatory microstructure are likely to vary considerably according to various types of words represented by lemmata. This makes the following caution by Gouws and Prinsloo (2005: 141) very important:

The data distribution structure should make provision for additional items and data categories that might be extremely important in the treatment of certain lexical items.

In addition to the obligatory microstructure of the ISM represented above, some articles contain synonyms, variants and etymological data while some lemmata are provided with illustrations. It is reasonable that not all lexical items will need exactly the same treatment. Similarly, the NLLTD has to provide lexicographic treatment to lemmata according to specific types of lemmata, as noted in the previous chapter. This means that a complete microstructural programme should have a slot for every item or data category that would be included in the dictionary. The filling in of the slots would then depend on whether a particular lexical item requires particular lexicographic treatment, which would be realised by the inclusion of a particular data category.

Another distinction is made, as far as types of microstructures are concerned, between an integrated and a non-integrated microstructure (Gouws and Prinsloo 2005: 138). Such a distinction pertains to the proximity and directness of the relation between definition or equivalents and the cotext entries provided in their support (Gouws and Prinsloo 2005: 138). An integrated microstructure displays a clear relationship between definitions or equivalents and their supporting cotext entries while a non-integrated microstructure does not. This distinction may be of little relevance in this case where the provision of illustrative examples is of little assistance. However, it should be understood in the large context of arrangement of microstructural entries.

Entries within dictionary articles should not be arranged in an arbitrary way. This leads to the concept of micro-architecture. According to Steyn (2004: 289), micro-architecture

implies that all different microstructural elements have to be employed in an interactive relation to one another. Entries in an article displaying a micro-architecture have definite text topological relations (Gouws and Prinsloo 2005: 172). The departure point is the division of an article into a comment on form and a comment on semantics (Hausmann and Wiegand 1989). In the ISN, lemma signs are immediately followed by variants where relevant and then part of speech designations. These data categories constitute the comment on form. The comment on semantics consists of definitions, illustrative examples and synonyms where relevant. This order is important in the user's access to data and information retrieval. For instance, the lemma sign provides the user with information on spelling. If there is any other way in which the word is spelt, the user can get that immediately from the next data category, which is the item giving the variant. If the variant was to be placed in the position where synonyms are located in the ISN, then the user would have to go through the comment on semantics in order to get information on the form of a lexical item. However, neither the ISN nor the ISM nor any of the ALLEX dictionaries display micro-architecture in their articles. The articles display a conventional linear structure. Consider the following two articles from the ISN and ISM respectively:

isampula [isampuli] bz 5. *Isampula* yinto etshengiswa abantu ukuze babone ukuthi ezinye zakhona zinjani.

(**sample** [variant] n 5. A *sample* is an item which is shown to people as an example of how others of its kind look like.) (Article 1, ISN: 204).

iji kilefu jii kirefu (SH) G-Clef (EN). *Iji kilefu* luphawu lwezokulotshwa kwemiculo olumisa inothi uG phezu kwenothi uC eliphakathi laphakathi kwamanye amanothi emzileni wesibili ngaphezu kwesitafu. FAN *ithirebhu kilefu*. KHA *efu kilefu, isi kilefu*.

(**G-Clef** Shona Gloss, English Gloss. A *g-clef* is a symbol used in music notation which positions the note G on top of the note C which is between other notes in the second line above the staff. FAN *treble clef*. COMPARE *F-Clef, C-Clef*.) (Article 2, ISM: 29).

An attempt has been made to capture the articles as they appear in the two respective dictionaries only to the desired extent of displaying lack of micro-architecture. In the first article, *isampula* (sample) is provided with data on spelling, its variant, part of speech label 'bz' for *ibizo* (noun) and the noun class 5 according to the Bantu noun class system as part of the comment on form. The definition is the only data category provided in the comment on semantics, but for other lexical items, illustrative examples and synonyms are provided after the definition. While the use of typographical and non-typographical indicators in this article and the rest in the dictionary may be adequate in indicating items, data categories and search fields, no clear and formal distinction is made between those entries that constitute comment on form and comment on semantics. For polysemous words, only sense numbers indicate the beginning of a different sub-comment on semantics.

A similar observation can be made on ISM articles as illustrated by the second example above. The lemma sign is the only item or data category in the comment on form, but for other terms variants are given immediately thereafter. The comment on semantics contains Shona and English equivalents, after which follow the definition, the synonym and those terms in a paradigmatic relation with the lemma sign. In some articles, the comment on semantics ends with a reference to an illustration. As in the case of the ISN article, no clear and formal distinction is made between the two comment fields and their sub-fields. This way, the articles do not display micro-architecture and the following renditions indicate their possible improvements:

isampula [isampuli] bz 5.
Isampula yinto etshengiswa
 abantu ukuze babone ukuthi
 ezinye zakhona zinjani.

iji kilefu
 jii kirefu (SH) G-Clef (EN).
Iji kilefu luphawu lwezokulotshwa kwemiculo
 olumisa inothi uG phezu kwenothi uC
 eliphakathi laphakathi kwamanye amanothi
 emzileni wesibili ngaphezu kwesitafu.
 FAN *ithirebhu kilefu*. KHA *efu kilefu, isi kilefu*.

Applying micro-architecture to the ISN articles would lead to a clear demarcation between comment on form and comment on semantics by starting the latter in a new line. This is shown in the first one of the above articles. An attempt of applying micro-architecture on the ISM article could adopt a similar approach. The lemma sign could be left on its own and if there are variants, they could be presented immediately as done in the ISN article. The comment on semantics field could then begin on the following line. Since the ISM has various sub-comments on semantics, separate sub-fields could be allocated to each, depending on applicability to a particular lexical item. As shown in the second example above, equivalents could be allocated their sub-field, which would not take more than one line if they were not given immediately after lemma signs. Then the definition would begin on a new line to make it distinct so that a user who uses the dictionary solely in search of meaning would not start by searching through the other sub-fields. The same would be possible for the other sub-comments on semantics, although a presentation in the second example above whereby synonyms and those terms in paradigmatic relations with the lemma sign are not separated would not be harmful, given the distinctness of their indicators. This would save some space, as it is clear that applying a micro-architecture implies more space consumption. Notwithstanding this, the application of micro-architecture in the two articles enhances more user-friendliness. Users' access to data and information retrieval can be achieved with less effort and time.

The compilation of the NLLTD and all the future dictionaries in Ndebele should also pay attention to possibilities of employing a micro-architecture as one way of enhancing the inner-access structure of dictionaries. As shown above, it does not imply that each sub-comment should be allocated its own sub-field commencing on a new line. Related items, data categories and search-fields can be combined, especially those that can be clearly distinguished from each other by means of structural indicators. A balance should be struck between effective space-utilisation and effective user guidance. Unimpeded access to the data and the best way to achieve the relevant lexicographic functions should play a determining role. The application of a micro-architecture in the ISM article demonstrated in the second example is particularly relevant for LSP lexicography. It reduces the density of entries in an article.

7.3 The Frame Structure

Gouws (2004a: 67) laments that “dictionaries often display a central list bias with little or no attention to the use of outer texts”. Such a narrow approach would imply that the discussion of macrostructural and microstructural issues in the previous chapters and sections is adequate as far as dictionary structure is concerned. However, from the view of data distribution and data access, this traditional approach is far less adequate. Dictionaries clearly display a frame structure as carriers of text types or text compounds (Bergenholtz and Tarp 1995, Gouws 2002; 2003; 2004a; 2007, Gouws and Prinsloo 2005, Hartmann 2001, Hartmann and James 1998, Yong and Peng 2007). In their respective books, Hartmann (2001) and Yong and Peng (2007) also refer to this structure as the megastructure. This structure relates the central list to the outer texts which are classified as either the front matter, if they occur on the left side of the central list, or the back matter if they occur after the central list. It is noted that central texts can be partially extended if they are complemented by either front matter texts or back matter texts while they can also be fully extended if they are complemented by both front and back matter texts (Gouws 2004: 68-69).

Advances in metalexigraphy have gone beyond acknowledging the existence of outer texts to investigating their role and developing a theory which improves their employment. In this connection, Gouws (2007) observes that:

Although dictionaries more often than not employ front and back matter texts as venues for more comprehensive data distribution, these outer texts are too often selected on either an arbitrary or traditional basis; traditional in the sense that it exclusively relies on the pattern followed in other dictionaries without any innovative approaches in terms of new types of outer texts or a new way of presenting data in these texts. Too seldom they are employed to enhance the realisation of the lexicographic functions of a specific dictionary (Gouws 2007: 79).

A similar disappointment is also expressed in Gouws (2004: 75). From Gouws’ various publications (for example Gouws 2002; 2003; 2004; 2007), analysing the role played by various outer texts in relation to the lexicographic functions or the genuine purpose of the dictionary appears to provide a firm basis for theory development. The exercise has permitted distinctions between outer texts with lexicographic functions or the genuine

purpose being the basis for the distinctions. Two major distinctions have been suggested between the following types of outer texts:

- Integrated outer texts versus non- or un-integrated outer texts
- Function-adhering outer texts versus non-function-adhering outer texts

Gouws (2004: 72) explains the first distinction in the following way:

Unintegrated outer texts complement the central list and are not needed to retrieve the information presented in the articles of the central list, neither do they add to the treatment of the subject matter of the dictionary. Integrated outer texts function in co-ordination with the central list and are aids in ensuring an optimal and full retrieval of information and an accomplishment of the genuine purpose.

Examples of un- or non-integrated outer texts would include an imprint giving bibliographical information about the dictionary. While this information is important in its way, it has nothing to do with the information that can be retrieved from the lexicographic data in the dictionary. Neither does it facilitate data access and information retrieval. On the other hand, integrated outer texts would include in part the help texts such as the contents page or the guide to dictionary use. Help texts assist users as elements of outer access structures which ultimately lead to the realisation of the genuine purpose of a dictionary when the user gets guided to the required data and retrieves information which addresses his/her needs. There would be other integrated outer texts from which the user can retrieve lexicographic information. The text which illustrates the use of music notation symbols in the ISM by presenting popularly known Ndebele songs and the national anthem in notation transcription is an integrated outer text because it complements the central text in transferring music knowledge.

The distinction between function-adhering outer texts and non-function-adhering outer texts (Gouws 2007) also has to do with the relationship of these texts with the genuine purpose and lexicographic functions of the dictionary primarily catered for in the central text. Function-adhering outer texts are those by means of which a given lexicographic function can be achieved (Gouws 2007: 82). However, these texts may or may not be integrated into the genuine purpose or central text of a dictionary.

Integrated function-adhering outer texts advance the pursuit of the genuine purpose or at least one lexicographic function catered for in the central text. Spelling information is very important in the ISN given orthographic divergence especially with regards to loan words. The dictionary provides a standard guide to spelling especially in its treatment of loan words and variant and this is vital for text production. The texts *Izipele zesiNdebele* (Ndebele spelling) and *Amagama Okwebolekwa* (treatment of loan words) in the front matter of the ISN may be regarded as integrated function-adhering outer texts because although they do not provide spelling information about individual Ndebele words, they provide information which is relevant for the understanding of how particular lexical items treated as lemmata are spelt. Thus the texts are integrated and adhere to the text production function.

Unintegrated function-adhering outer texts are not integrated into the genuine purpose of a dictionary. However, they support its realisation by serving at least one function which may be quite different from those served by data contained in the central text. The back matter text entitled *Amazwe Lezizwe Ze Afrika* (names of African countries and nationalities) in the ISN has a text production function in that it indicates how country names and names of corresponding nationalities are spelt in Ndebele. For example, *Lesotho* is rendered as *iLesuthu* in Ndebele while *Sotho* for nationality is rendered as *umSuthu*. Had it been spelling information only that could be retrieved from this text, the text would probably be regarded as an integrated function-adhering outer text. However, the text also has a cognitive function of teaching the user how nationalities are derived from the country names in Ndebele, addressing the question: *What name is used to call a person from such a country?* The provision of this information is not part of the genuine purpose of the ISN, but the information is nevertheless very important. Unfortunately, the rendering of *Algeria* as *i-Alijeriya*, *Egypt* as *iGibhithe* and *Uganda* as *iYuganda* on one hand and *Nigeria* as *iNigeriya*, *Ivory Coast* as *i-Ivory Coast* and *Swaziland* as *iSwaziland* on the other hand indicate inconsistency as far as adopting country names into the Ndebele language is concerned. In the former case, adoption is complete while it is partial or zero in the latter. Therefore, while the inclusion of this text is positively

motivated, lack of thoroughness on the part of the lexicographers makes it confusing and hence less user-friendly.

Non-function-adhering outer texts can also be either integrated or unintegrated resulting in a distinction between integrated non-function-adhering outer texts and unintegrated non-function-adhering outer texts. The latter is sufficed by the description of unintegrated outer texts given earlier on in this section. They are not in any way related to the genuine purpose and lexicographic functions of the dictionary and neither do they have their own genuine purpose. On the other hand, integrated non-function-adhering texts are related to the genuine purpose or lexicographic function of a dictionary as aids to optimum retrieval of relevant information. No information required for the realisation of the genuine purpose or lexicographic functions of a dictionary can be retrieved from them. Again, contents pages and guides to dictionary use remain relevant examples.

From the above exposition, it becomes obvious that outer texts need proper rather than arbitrary planning. The distinctions that have been described should inform such planning. Gouws (2007: 83) argues:

The distinction ... allows the lexicographer to include outer texts that assist users in achieving a well-identified lexicographic function, albeit that this function has not been identified as having to prevail in the central list of the dictionary. Such an approach adds a new dimension ... that all functions do not have to be achieved in the central list of such a dictionary and that the central list is not the only venue for the realisation of functions.

Thus, outer texts should not be planned on their own as mere parts of dictionary structures but as part of the function allocation programme which determines the textual venues in which given lexicographic functions should prevail. Because outer texts may have their own functions which may be different from the genuine purpose of a particular dictionary, it is important that lexicographers ensure that primary functions are prioritised. This is necessary in order to avoid a situation where outer texts of a dictionary with text production as a primary function are dominated by text reception or cognitive functions especially when the primary function could be supported further (Gouws 2007: 85). In the light of this, the following subsections will list and discuss briefly a number

of data types that can be contained in the outer texts of the NLLTD in view of the functions identified in 4.5. This should be seen as exemplification and therefore a few possible NLLTD outer texts will be discussed.

7.3.1 The title page

The title of a dictionary is the identity of that particular type of dictionary. It should be noted that by giving a particular title to a dictionary, the compiler also delineates the scope and coverage of the dictionary. In the case of LSP dictionaries, the title informs the user about the domain of which the LSP is lexicographically treated in the dictionary (Mihindou 2004: 120). For example, an Ndebele music student would readily know that the ISM would be more useful than the ISN as far as lexicographic assistance with any aspect of musical LSP is concerned. In this regard, the NLLTD title has to be thoughtfully formulated to achieve the same effect. However, the work of a good lexicographer should not end with selecting the best title for his/her dictionary, as has been argued in various parts of this thesis; the dictionary should achieve its lexicographic functions. Therefore, the title should be in agreement with the functions. Gouws (2007) argues that users would benefit more if the title were to provide as its subtitle a hint of the lexicographic functions covered by the dictionary. Warning is given in this respect that this should not mean bombarding the users with highly metalexicographical terms such as *native text production* and so on. For the NLLTD, *Ukuphathisa ekufundiseni, ekufundeni lekulobeni mayelana lezifundo zenhlelazindimi lezokuloba esiNdebeleni kusetshenziswa ulimi lwesiNdebele* (To assist teaching, learning and academic writing in Ndebele literary and linguistic studies using the Ndebele language) would suffice as a subtitle. That way, the title page becomes an integrated non-function-adhering outer text.

7.3.2 A Historical Outline of the Language

A historical outline of the Ndebele language, also provided in the ISN, will be relevant in the NLLTD to provide both general and special data about the language. This is one cognitive function that the NLLTD may do well to serve. The data would be very useful to students and researchers of Ndebele linguistics and literature. Such data may either be seen as constituting the factors that have affected or the products that have resulted from

the history of the language. It may be argued that the text would be irrelevant as it is provided in the ISN. However, it would be more user-friendly for the NLLTD users to access this data in the NLLTD as it may advance some of the dictionary functions. The compilers of the NLLTD do not necessarily need to reproduce the ISN text but to adapt and update it in view of the special needs of the prospective users of their dictionary. Such a text would at best be described as a non-integrated function-adhering outer text. The user cannot retrieve linguistic and literary knowledge which will constitute an important element of the genuine purpose of the dictionary. The text will, however, provide socio-linguistic data which may help the user in both linguistic and literary studies.

7.3.3 The Ndebele Alphabet

The Ndebele alphabet, included in the ISN, would be an important inclusion as an outer text in the NLLTD. In the ISN, letters, representing both vowels and consonants, are listed against their phonemes, followed by a list of possible consonant clusters. This data is necessary for Ndebele beginners but more importantly students of Ndebele phonetics and phonology who are among the prioritised users. The inclusion of such a text in the NLLTD will contribute towards the achievement of the cognitive function of providing special data about the language. The Ndebele alphabet, should it be included in the NLLTD, would be classified as an integrated function-adhering outer text because the user immediately gets information which will also be useful in the use of the dictionary.

7.3.4 The Ndebele Spelling System

Because of orthographic problems which are still prevalent in Ndebele, an outer text in the NLLTD showing the currently used spelling system and the way it deals with loan words will be useful. This will also provide the user with information which may help in the understanding of some term-creation methods used and some of the terms included in the dictionary. The text becomes an integrated function-adhering outer text.

7.3.5 An Encyclopaedic Section

An encyclopaedic section will be necessary to complement the dictionary in the pursuit of the cognitive function, namely the provision of either general data about linguistics and literature or special data about Ndebele linguistics and Ndebele literature. Although section 5.1 highlighted the challenges of attaining a systematic classification of the two fields, a thematic overview, describing the subject fields in general as well as in view of how they have developed in Ndebele, would suffice. Such a text, or texts for each of the subject fields, would provide the encyclopaedic data that cannot be given in the dictionary, which will make the texts to have an integrated function-adhering nature.

7.3.6 The Bibliography

Just like the listing and acknowledgement of individual contributors in a dictionary project, a bibliography should be included in one of the outer texts to show the frequently used sources in the compilation of the dictionary. This would also be useful to users who may need to research further on particular knowledge handled in the dictionary, as noted earlier on. This therefore demands that acknowledgements complement the bibliography by clarifying the aspects on which some works have been helpful in the compilation of the dictionary. All ALRI/ALLEX dictionaries have done that well. It is, however, remarkable that the DDU compilation used only Shona textbooks and dictionaries for fields in which linguistic and literary theories, developed all over the world, have been applied, particularly considering that English has thus far been the language used in studying both linguistics and literature at advanced levels. For the NLLTD, it has been noted that English dictionaries would be very useful and the bibliography should reflect this reality. Cross-referencing from the central text to the bibliography would give this text a more comprehensive role in the dictionary.

7.3.7 An Alphabetical Equivalent Register

The relevance of an alphabetical equivalent register for the NLLTD and other LSP dictionaries in Ndebele is based on the relevance of English equivalents as data categories (section 6.2.2.2). Presenting an alphabetical equivalent register would also contribute towards the outer access structure of the dictionary. The users who have been

taught Ndebele linguistics using the English language are more likely to know English terms better than Ndebele ones. So starting the search with the alphabetical equivalent register would help the user find the Ndebele term which would be treated in more detail in the main text. Thus the alphabetical equivalent registers make dictionaries poly-accessible and hence accessible to users with various competence levels within the user profile. That way, they may be regarded as integrated function-adhering outer texts since some lexicographic information can be retrieved from them while they also contribute to the access of data in the main texts.

To conclude this section, it is important to note a transtextual functional approach may really go a long way in assisting lexicographers to present lexicographic data beyond the boundaries of the central or main text. The fear that the use of outer texts is a waste of dictionary space should be allayed as a bygone practice. This development is also noted by Gouws (2007), from whose analysis one may logically conclude that outer texts would be consulted but not as frequently as the central list. Should lexicographers increase the value of the outer texts, their consultation rate is definitely going to follow suit. As far as this study is concerned, it should be noted that a transtextual functional approach has already been attempted in Ndebele lexicography as indicated by references to the ISN and ISM. However, a more comprehensive assessment of the success with which the tasks have been done in the two dictionaries is necessary. Regarding the proposed NLLTD, a strong emphasis has been placed on the outer texts which may complement the central text in fulfilling the text production and cognitive functions. This is in line with the proposed prioritisation of the two functions over text reception. However, it was noted that for the longer term, text reception may be catered for by providing data categories which this function shares with the other functions.

7.4 The Mediostructure

Nielsen (1999: 91) indicates that there is no general consensus regarding the lexicographic notion of mediostructure except that it deals with cross-references. However, Tarp (1999) also highlights that the notion of lexicographic cross-reference structures itself has no common definition. Nevertheless, there seems to be a general

understanding of the role of the mediostructure or the cross-reference structure among several metalexigraphers. This study will not attempt a theoretical debate regarding the scope of the application of the lexicographic notions of mediostructure or cross-reference structures. Instead, it will only highlight the possible room for applying a mediostructure in the prospective NLLTD and other LSP dictionaries in Ndebele. Insights are mainly drawn from Gouws and Prinsloo (1998; 2005), Gouws (1999), Hartmann and James (1998), Nielsen (1999), Tarp (1999) and Wiegand (2004).

Several reasons make the mediostructure a crucial element of dictionary structure, the most important being that it facilitates both data distribution on the compiler's part and access to data on the user's part. From the discussion of the macrostructure (7.1), the microstructure (7.2) and the frame structure (7.3), it is notable that the lexicographer has options of presenting lexicographic data at various access positions as long as he/she follows a clearly worked out data distribution structure. To save space, the lexicographer normally compresses and condenses particular data types by means of structural indicators, as shown in 7.2. The lexicographer would also save space by avoiding repetition in the case of similar or related lexical items lemmatised in a dictionary, which would be located at different access positions. Wiegand (2004: 218) states that "in order to uncover the connection, which is necessarily concealed by data distribution along the different access positions, a mediostructural network has to ensue". This is very important for optimum information retrieval on the part of the user.

As part of a theoretical model for LSP lexicography in Ndebele and the NLLTD in particular, instances where cross-referencing would be useful for both the compiler and the user will be identified. According to Nielsen (1999: 96) and Tarp (1999: 117-119), the instances may be called (preliminary) cross-reference conditions in the sense that cross-referencing becomes a necessary procedure. This implies that there are instances where cross-referencing would be impossible or inappropriate (Tarp 1999: 126, Gouws and Prinsloo 2005: 186-187). It also suggests that cross-referencing may be underutilised or misused leading to situations where it does not present optimum benefits to the lexicographer and the user. Such instances will be highlighted in the discussion.

A distinction will be made between those instances requiring explicit cross-referencing as opposed to implicit cross-referencing. In the former, the lexicographer compels the user to go from a reference position to the reference address while in the latter the user is motivated by need for extra information in addition to that which initiated the dictionary consultation process, without the lexicographer advising the user to do so (Gouws and Prinsloo 1998; 2005, Louw 1999 and Yong and Peng 2007).

In the NLLTD, explicit cross-referencing may be applied in instances such as the following:

- (a) Between synonyms whereby lesser synonyms may be defined using other terms which would be more preferred. As in the ISN and the ISM, 'FAN' would be employed to link the main article with its synonyms which, for reasons of space economy, may be simply defined by using the lemma sign of the main article. One pair among the NLLTD lemma candidates would be *inoveli* and *ugwalo* for *novel*. Depending on the lemmatisation policy, one of them has to be regarded as the main term while the other assumes the position of a lesser synonym. The main term should be provided with full treatment in the comment on semantics and its article should also contain a slot for the lesser synonym. The main term would then occupy the comment on semantics in the article headed by lesser synonym.
- (b) Between variants whereby a less popular variant may be defined using a more preferred term. A less popular variant may be enclosed in square brackets immediately after the main form as is done in both the ISN and the ISM. For the same reason of space economy and avoiding repetition, only the main term may be given full lexicographic treatment and then have the less popular one linked to the main article by means of the guide word 'BONA'.
- (c) From terms in the main text to illustrations whereby users may be advised to refer to the illustrations section for the diagram of the vocal tract, the vowel chart, the illustration of plot development in a novel or a play and illustrations of phonological processes such as vowel coalescence. 'BONA *umfanekiso*' (see the

illustration) is used for this connection in the ISM. Given this guidance, users may realise that reference to the illustrations section is not for leisure purposes but part of encyclopaedic information retrieval on a particular term.

- (d) Between terms which are in a paradigmatic relationship, the user may be advised to make a comparison of such terms by moving from the term that prompted the dictionary look up procedure to others with which it relates. Terms with relationships of super-ordination, subordination and co-ordination may be connected in this way. In the case of the ISM, such explicit cross-referencing is made from *ivayola* (viola) to *ivayolini* (violin), *itshelo* (cello) and *ibhesimbili* (double bass), which denote the other types of violins, for instance. The same procedure may be done in the NLLTD and other LSP dictionaries as it clearly facilitates access to more information which may lead to the fulfilment of cognitive lexicographic functions.

Implicit cross-referencing may then be applied in cases where the user is not explicitly advised to refer, but where doing so may be helpful:

- (a) From the main text to the front matter; whereby the user may realise that he/she has problems about the use of a particular structural indicator. The user may then refer to the relevant text in the front matter. This will be a case of use-related cross-referencing because it will provide the user with information regarding the actual use of the dictionary (Nielsen 1999: 94).

Another instance of implicit cross-referencing from the main text to the front matter may occur where the user finds that a particular article does not provide adequate encyclopaedic data. The user may then refer to the encyclopaedic section in search of such information. In this case cross-referencing is function-related since the user moves to the reference address in order to find answers to questions that initiated the dictionary consultation process (Nielsen 1999: 94-96). In fact, this applies to all the cases of cross-referencing except the one in the preceding paragraph. However, in such cases, it would be more rewarding if explicit cross-referencing was made because having been advised to refer to the encyclopaedic section, the user would

be assured of solving the problem that initiated the look up procedure. A guarantee would not always exist in the case of implicit cross-referencing. Useful suggestions are made by Nielsen (1999: 95) in this regard.

- (b) From the alphabetic English equivalent register to the main text; whereby a user who does not know a Ndebele term but knows an English term may start from the English equivalent register to search for the Ndebele term. The user may then proceed to the main text for more information about the term.
- (c) From the dictionary to external texts listed as sources used in the compilation of the dictionary; the user may pursue one of the texts in order to obtain extra information which could not be accommodated in any of the dictionary texts. The information may relate to the actual use of a term, for example, when the reference address is an article or a book in which the term is used. Such cross-referencing may be called dictionary external cross-referencing since access to the reference address involves exceeding the boundaries of a particular dictionary (Gouws and Prinsloo 2005: 180).

In all the instances highlighted above, cross-referencing clearly establishes relations between different components of a dictionary. It is important that the mediostructural system is meticulously developed to ensure that it achieves the purposes for which it is employed. Mainly, these are space economy on the part of the lexicographer and optimum information retrieval on the part of the user. Text condensation and text compression employed to economise on space can have adverse impacts on the user's access to data and information retrieval. Some lexicographers tend to use highly novel structural indicators which estrange the user while others tend to use lots of them such that textual condensation become extremely high within an article to the extent of deterring the visibility of other items and data categories. That is why a recommendation was made in 7.2 that lexicographers use structural indicators which have become established in the lexicographic community. In the case of Ndebele, the guide words used in the ISN and ISM should be enough for the NLLTD and other future dictionaries. In addition to this, lexicographers should always bear in mind that "cross-references from

the front matter, especially from the user's guidelines to the central text are crucial for successful or optimum retrieval of information" (Gouws and Prinsloo 1998: 28). This further serves to reiterate the role of the guide to dictionary use, among other front matter texts.

It has been noted that some lexicographers fail to achieve the advantages provided by the use of a mediostructure. For example, while space economy is one of the reasons why cross-referencing was employed in the ISN (Hadebe 2006), there are numerous instances where two lemmata, either synonyms or variants, are cross-referred to each other yet they both carry the same definitions (Nkomo 2007: 378). In such cases, cross-referencing does not help the lexicographer save space; rather it gives him/her more work. Worse instances of cross-referencing were noted in the ISN which make the user's search for information futile. Firstly, there are cases where a cross-reference definition is given for a particular lemma, but the lemma at the reference address is also given a cross-reference definition to the lemma at the initial cross-reference position. The following partial articles from the ISN illustrate this:

idolobho ... BONA *idorobho*.
idorobho ... BONA *idolobho*.

The above instance of cross-referencing is called circular referencing. If the user starts at the first article, he/she is forced to go back to it without getting the information that initiated the look up procedure. Nielsen (1999: 101) cautions that "reference circularity should not automatically be shunned, especially not if realised by way of conceptual chains of references linking supplementary and complementary information". Thus, it should be noted that what is actually condemned in respect of cross-referencing in the ISN as illustrated for lemma signs *idolobho/idorobho* (town/city) is the fact that access to information is not eventually enhanced. Circular cross-referencing would be useful in completing conceptual paradigms in LSP dictionaries, as rightly observed by Nielsen. LSP lexicographers should ensure that it is not accompanied by heavy information costs (Nielsen 1999: 111).

There is yet another and probably the worst form of cross-referencing which involves a cross-reference article whose lexical item is not even lemmatised in the dictionary. Non-existent cross-reference addresses are called dead references (Gouws and Prinsloo 2005: 185-6). All this serves to show that the mediostructure needs great care for it to successfully help the lexicographer in data distribution and the user with data access. The mediostructure should really help the user to save space and include more lexicographic data to benefit the users. The need to save space should not result in the mediostructure that deters the user's access to data. More importantly, the reference address should provide the data that promoted dictionary consultation.

Following the criticism of the mediostructure of the ISN for lack of thorough and consistent application (Nkomo 2007), as well as the criticism of the ISM for similar reasons during the focus-group discussion held during the research for this study, the mediostructure is probably one area which Ndebele lexicographers need to give increased attention in the compilation of future dictionaries. However, dictionary users also need to be educated on the motivations for the application of the mediostructure and how they can best make use of it for optimum information retrieval. After that, they would also be able to give useful feedback on the limitations, not of the mediostructure alone, but all the aspects of a dictionary which are meant to help them with information in solving specific problems in specific situations.

7.5 Conclusion

The preceding sections have been dedicated to dictionary structure, mainly the arrangement of lexicographic data included, as an important element for the proposed model for LSP lexicography in Ndebele. At the four main levels of dictionary structure discussed, focus has been on facilitating data distribution and making that data accessible to the specific users for whose needs, determined by their specific situations, the data should be included. Thus, the need for a functional approach to dictionary structure was emphasised whereby the proposed lexicographic functions for the NLLTD were used to support arguments for or against particular options. What this implies, for the NLLTD and other future LSP dictionaries, is that lexicographic functions should be the starting

point for lexicographers. Not only should functions guide the selection of dictionary entries as shown in the two previous chapters, as this may result in a dictionary in which properly selected and relevant data are poorly distributed and made less accessible to the users.

CHAPTER EIGHT: GENERAL CONCLUSION

8.0 Introduction

By way of conclusion, this chapter makes a summary of the issues discussed in the preceding chapters. It will also demonstrate the applicability of the model to LSP dictionaries other than the NLLTD which was given special attention in this study. In this respect, the limitations of the study will be highlighted while at the same time making recommendations for necessary research intended to facilitate the production of more useful and user-friendly LSP dictionaries in Ndebele and Zimbabwe generally. The problem question will then be reviewed to demonstrate the extent at which the thesis has addressed it.

8.1 A Summary of the Thesis

Lemma selection, lexicographic treatment of lemmata and dictionary structures were identified as some of the most relevant elements of lexicographic practice. As such, it was considered important to make them central elements of a general model for LSP lexicography in Ndebele. They were thus discussed in Chapters Five, Six and Seven respectively. Special reference was made to the prospective Ndebele linguistic and literary terms dictionary, referred to as the NLLTD in the various parts of the thesis. Reference was also made to other published dictionaries in Ndebele as well as in other languages. Some of the dictionaries are general-purpose dictionaries while others are LSP dictionaries.

From the outset, the main hypothesis that was held was that practical LSP lexicography and lexicography in general in any community needs to be guided by strong theoretical principles. It was noted that while the ALLEX Project contributed immensely to practical lexicography in Zimbabwe's main indigenous language, Shona and Ndebele, there was still need for objective theoretical evaluation of the products in order to improve both lexicographic practice and dictionary use. Although reference was made to some of the dictionaries, it cannot be firmly claimed that their criticism in a metalexigraphic sense was undertaken to give a complete picture regarding their quality. This is due in part to

the fact that the study did not have dictionary criticism as its primary object but resorted to it only as one of the means towards the formulation of a model for future dictionaries. Attention was only given to relevant aspects of the dictionaries in various parts of the thesis. This means that other important aspects were not discussed. Besides, a study solely based on dictionary criticism would be difficult in the case of the present writer who is the co-editor of one of the dictionaries, the ISM. Nevertheless, it is hoped that a theoretically motivated approach of this study enhanced a fair evaluation of the dictionaries in respect of the relevant issues, and in that way contributed to the arguments for a model for LSP lexicography in Ndebele.

This study sought its guidance from two well-known theories of lexicography. The first one is the general theory of lexicography developed by Herbert Ernst Wiegand over several years through numerous publications. The other one is the theory of lexicographic functions which was propounded by Danish (meta-)lexicographers led mainly by Henning Bergenholtz and Sven Tarp. The two theories share two basic postulates. The first one is that lexicography is distinct from disciplines such as linguistics and many others of whose theories and methods it often utilises. The second postulate is that a dictionary, the product of lexicographic practice, is a utility tool with a genuine purpose. The theories thus seek to transcend lexicography from the traditions which were strongly linguistic-oriented and broaden its scope to indicate that there is more to lexicography than the linguistic contents of dictionaries. In this respect, the theories have managed to shift attention to lexicographic planning, dictionary use and dictionary structure as some of the key elements which should be taken into account in order to enhance both lexicographic theory and lexicographic practice.

There are, however, differences between the two theories, regardless of the fact that they share the same basic postulates. The differences between these theories were not the object of study and were thus not pursued in detail. The important point is that the shared postulates in fact enabled an appropriation of the theories in a complementary way more than their differences could hinder thesis development. It appeared that while the general theory may be useful from a procedural perspective, the functionalist approach can be

easily appropriated as a matter of principle in the procedural execution of lexicographic tasks. The insights drawn from this metatheoretical approach are summarised in the following two subsections.

8.1.1 The General Theory and the NLLTD

All the elements of the general theory of lexicography (see 3.1) appeared to be highly relevant for a general lexicographic model, be it for general purpose lexicography, LSP lexicography, or learners' lexicography. The theory puts every dictionary project within a context of a lexicographic landscape and the lexicographic processes which culminate in the production of dictionaries. In this respect, the history of Ndebele lexicography was identified as a source of guidance which lexicographers may need in the planning and compilation of new projects. Not only does it enlighten aspects of the published dictionaries, but also the broader setting within which lexicographic practice was carried out. That way, it becomes easy to understand why certain dictionaries were necessary, why some were produced and why others failed. Thus, insights are obtained regarding not only the methods but also the functions of the dictionaries as dictated by the prevailing socio-economic and cultural factors. That way, it becomes possible to plan new dictionaries in view of the presently prevailing needs and also undertake lexicographic practice using methods which avoid lexicographic failures of the past.

In 4.1, reference was made to the ALLEX and Post-ALLEX ALRI Strategic Plans as results of what may be considered the comprehensive secondary lexicographic processes. It was also noted that there being no institution to which ALRI is subordinate as far as the co-ordination of lexicographic activities is concerned, the plans may also be seen as results of comprehensive primary lexicographic processes. Unfortunately, that missing link between lexicographic practice and dictionary use has affected lexicography in Zimbabwe in several ways. The institute had to plan projects, source funds, develop personnel, develop infrastructural requirements, compile dictionaries, look for publishers and in some instances fund publication. ALRI did not get any substantive form of support from the government or substantive recognition of its work. One gets the impression that the institute was doing experimental work on the indigenous languages without real value

in society. Consequently, more than half the number of dictionary projects which were supposed to be completed during the ALLEX period were not completed. It is uncertain whether work on them will continue soon despite the fact that a post-ALLEX plan was drawn. Nevertheless, it is very important at this time of uncertainty to reflect on the lexicographic progress made so far and sought theoretical guidance for future lexicographic prospects.

As noted in 4.1, the NLLTD will be one of the dictionaries that will eventually be produced a long time since its initial proposal and attempts at its production. On its own, that may have no direct impact on the eventual dictionary, but it serves to emphasise that planning is an important element of modern-day lexicography. A well-founded organisation plan would be needed to ensure that personnel, infrastructural and financial provisions are all in place before actual work on the dictionary can be started. This would ensure that the process runs smoothly until the eventual publication of the dictionary. In a complementary way, a dictionary conceptualisation plan should then ensure that all the actual dictionary compilation activities are fully accounted for and carried out in a systematic way to result in the production of a useful and user-friendly dictionary. The conceptualisation plan needs to address all the issues that are relevant from the general preparation phase up to the publication phase.

The discussion of lemma selection in Chapter Five indicated that LSP lexicography poses several challenges to lexicographers which are not experienced in general purpose lexicography. The first one relates to the delimitation of scope and in the case of multi-field dictionaries, linking up different subject fields in one dictionary. This problem is lamented by David Crystal in his famous *Dictionary of Linguistics and Phonetics*, as indicated in 5.1.4.1. Following Pedersen (1995), this thesis demonstrated the importance of undertaking a systematic classification of subject fields for which LSP dictionaries are to be compiled in 5.1. A systematic classification of subject fields enables lexicographers to achieve lemmatisation which captures effectively the conceptual or thematic and LSP lexical structure. This is important in the fulfilment of cognitive functions. However, it was noted that systematic classification is fraught with challenges which emanate from

the fact that although knowledge classification generally follows specific patterns, its methods are not perfect. The delimitation of subject fields and their sub-fields does not have clear-cut boundaries and this may affect the scope of an LSP dictionary and subsequently, its lemma selection. This is even exacerbated by the influence of cultural factors in some fields, especially the arts and the humanities. For the NLLTD, this is one area which needs great caution.

The thesis indicated that for Ndebele and a host of other African languages, a terminological classification of the subject fields for which LSP dictionaries are compiled presents a serious challenge given the undeveloped terminology. Close reference to linguistic and literary terms in Ndebele in 5.2.2 led to the conclusion that term-creation and term-evaluation should be important preparatory stages for lemma selection. The use of corpora was similarly noted to be out of question considering that written texts in Ndebele are hardly adequate for the compilation of LSP corpora. That way, the contribution of experts was therefore noted to be important in the lemma selection stage and the defining stage as well. In the case of the NLLTD, the compilers themselves would be encyclopaedically competent as they would be either former or present lecturers of Ndebele linguistics or literature. Experts would generally be the colleagues of the compilers in the subject fields. However, it should then be stressed that the NLLTD compilers should have a strong metalexigraphic approach to the process. It is in this regard that the functional approach was adopted to show how lexicographic functions should prevail over and above the traditional and modernised lexicographic procedures.

8.1.2 The Functionalist Approach to the NLLTD

While the general theory of lexicography provided the study with important insights relevant in the planning and eventual publication of a dictionary, the functionalist approach gave conclusive insights regarding several problems and dilemmas faced in various stages of the lexicographic practice. In 4.2, the possible users of the NLLTD were characterised and their user situations were taken into account. Based on this, the lexicographic needs of the specific user groups were specified. This enabled the

identification of the lexicographic functions and the genuine function of the dictionary, which shaped the arguments in the subsequent chapters.

Native language text production was identified as the primary function which the NLLTD would do well to fulfil given the acute scarcity of Ndebele textbooks of grammar and literature in Ndebele. Other functions were also identified which the dictionary may serve. These include, among others, the provision of special data about the subject fields, the provision of special data about the Ndebele language and the provision of comparative data about the linguistic and literary fields in Ndebele and other societies, particularly English. Text reception can also be considered for future purposes. Therefore, although not all the suggested functions have to prevail in the NLLTD, it clearly appears that the dictionary has to be a poly-functional dictionary. The satisfaction of the functions has to depend on the order of priority attached to the functions. Basing on the identified functions, the explanation of linguistic and literary terms in Ndebele was identified as the genuine purpose of the NLLTD.

The genuine purpose of the NLLTD referred to in the preceding paragraph implies that the dictionary may benefit a very heterogeneous user group starting with primary school pupils up to students and researchers of Ndebele linguistics and literature. These diverse users have equally diverse needs from such a dictionary. It is an attested challenge to produce a single dictionary which satisfies the needs of such a diverse group of users. A dictionary for all is a dictionary for none. Therefore, it was recommended that the NLLTD compilers have to prioritise some user groups over others in order to provide optimum assistance to at least one group. Directing the NLLTD at semi-experts and experts who include high school and tertiary level students as well as teachers, lecturers and textbook writers would as a matter of immediacy produce more experts and high quality research outputs in the fields. Doing so may have a more positive impact on the Ndebele studies at all levels than attempting to produce an LSP dictionary which attempts to satisfy the whole spectrum of diverse user groups with different reference needs and different levels of reference skills. Through an integrated user approach (Gouws, personal discussion), the needs of the other user groups may be addressed through versions of the

NLLTD which may be compiled in view of these user's needs and skills and then have them attached to their school textbooks. This idea applies well to all LSP dictionaries for school subjects and the compilation of the BEDIE had such an idea. This means that the dictionaries would provide the assistance which is relevant in the learners' use of the textbooks for text production, text reception and also for the cognitive functions. That way, the NLLTD's main output may be reserved for the prioritised users who have more sophisticated needs and skills as well as the potential to immediately contribute significantly to Ndebele linguistic and literary studies by using the NLLTD.

While a procedural approach of the general theory of lexicography is important in the execution of lexicographic tasks, it does not fully account for various lemma selection dilemmas discussed in Chapter Five. The LSP/non-LSP dichotomy, the inclusion of sublexical and multilexical lexical items, various word categories, synonyms and variants against space restriction of dictionary size, cannot only be adequately addressed by the fact that these elements are parts of the respective LSPs and capture their lexical structures. The lexicographic functions of the dictionary should provide a cue. It was even argued that dictionary size should not be arbitrarily decided since this may give lexicographers a terrible time trying to reach an unrealistic lemma or page limit number. This may even lead to the inclusion of items which would never be of any value to the users.

Since the formulation of lexicographic functions is based on the characterisation of dictionary users, the lexicographer should then be able to tell whether particular types of lexical items would be useful in a particular LSP dictionary. In the NLLTD, sublexical items have to be included for their productive and cognitive value, particularly in the linguistic LSP. Multilexical lexical items have to be included because they are prevalent in the respective LSPs due to the fact that English terms which are largely the point of departure in Ndebele term-creation have no direct single-word equivalents. Multilexical lexical items are important for the cognitive functions as they are more explanatory and clearer. In order to satisfy the identified cognitive functions, it was also noted in 5.5.4

that lemma selection should also ensure that paradigms are completed in respect of terms referring to concepts which are in coordination, oppositional and sequential relations.

Text production would also require that the dictionary sets acceptable standards which will eventually contribute to the ongoing standardisation of the language. This would imply a strongly prescriptive approach. Given the Ndebele terminological situation, it would even imply the creation and imposition of new terms to users by lemmatising them in the dictionary and a sudden ban of some of the currently used terms which may be found to be terminologically inappropriate by excluding them. On its own, this may have consequences on the acceptance of the dictionary and success in the market, but the fact that the NLLTD have text reception as a function means that terminological diversity and temporariness of some of the elements have to be accommodated. Thus lemma selection should adopt a proscriptive approach to ensure that both text production and text reception are provided for. Chapter Five recommended that synonyms, variants and other non-LSP elements may be lemmatised but in a principled manner that will give clear guidance to co-ordinated text production activities and at the same time facilitate text reception. This is entailed in the proscriptive approach to lexicography. The provision of data categories, mainly definitions, and the use of cross-references would complete the proscriptive approach, which in essence is functional.

Chapter Six demonstrated that the functionalist approach would result in the NLLTD avoiding unnecessary loads of data which may inconvenience and frustrate the specified user groups instead of helping them. Following Tarp (1995; 2004) and Gouws and Prinsloo (2005), a strong correlation between lexicographic functions and data categories was indicated in 6.1. Thus, only those data categories which may be useful for specific functions were recommended for inclusion while those whose assistance may not be realised were not recommended. For example, while orthographic data in the form of correct spelling was recommended for the NLLTD, pronunciation data was shown to be irrelevant considering that text production will mainly occur in the written form where spelling guidance suffices more than pronunciation guidance. Besides, it was indicated that even the prevalence of homographs which are usually distinguished by tonal

variation in African languages would not be as problematic in LSP as is the case with general language. It was also noted that while grammatical data in the NLLTD may be invaluable for text production and cognitive purposes, it may be limited in the dictionary articles and be provided in the encyclopaedic section of the front matter. This would reduce textual condensation and data density in the articles and also allow a more detailed and systematic presentation in the front matter.

The value of definitions for text production, text reception and also the cognitive functions was underscored. It was therefore emphasised that the definitions should be correct, relevant and adequate. The implication is that they should give the relevant special field information in a factual way to fulfil the functions of the dictionary and the information needs of the user. As a result, it is recommended that the NLLTD transcends over the traditional defining principles which emphasise brevity and the lexicographically irrelevant distinction between encyclopaedic and semantic content of lemmata. The definitions should be explanatory to ensure that users get the information they need for text production and text reception among other functions. It was noted that pictorial illustrations may play a significant complementary role in the fulfilment of cognitive functions through correct, relevant and adequate definitions.

Still on the provision of data categories, 6.3.2.2 stressed that while English translation equivalents would be necessary in the NLLTD as they are in the ISM and other LSP dictionaries recently produced in Zimbabwe, their inclusion would not make the dictionary a bilingual or a translation dictionary. Equivalents have a cognitive function given that many users of the dictionary would be familiar with them through their instruction in linguistic and literary studies using the English language. As data categories, equivalents would simply give the dictionary a bilingual dimension not a bilingual typological status and would be inadequate for translation needs, which are not real in the case of linguistic and literary studies in Ndebele. The issue of typology will be revisited once again in this chapter.

Finally, Chapter Seven argued in the same line with its preceding chapters that the utility value of a dictionary requires that data distribution and presentation should be done in a manner that facilitates the access of the user and his/her efficient retrieval of optimum information. From this, it follows that while thematic macrostructures are favoured for their ability to capture the conceptual structures of the subject fields in LSP dictionaries, an alphabetic macrostructure was recommended for the NLLTD because it will be easy to create for the lexicographer and easy to use by the users who do not have the required encyclopaedic knowledge to follow a thematic macrostructure. Besides, it was shown that the thematic macrostructure may actually be difficult to realise in a meaningful way. Similar principles were followed in recommending an arrangement of data in a user-friendly way by employing aspects of micro-architecture and using structural indicators which do not estrange the users.

In order to enhance data distribution and data access, the chapter also recommended the use of a frame structure. The chapter demonstrated that several outer texts which may be classified as integrated outer texts, non-integrated outer texts, integrated-function-adhering and non-integrated function-adhering texts may be used for lexicographic and extra-lexicographic purposes in relation to the genuine purpose of the dictionary. After identifying what are called cross-reference conditions, 7.4 indicated that a mediostructure would be useful for data distribution on the part of the dictionary compilers and for data access on the part of the dictionary users.

8.2 Applicability of the Model to LSP Lexicography in Ndebele

The issues summarised in 8.1 were discussed with special reference to the NLLTD as one of the many LSP dictionaries that the Ndebele or generally the Zimbabwean community requires in order to satisfy both cognitive and communicative needs in various subject fields. It was noted that the NLLTD was being used as a case study (2.4.1) and that the desire has been to formulate a model which may inform the production of LSP dictionaries other than the NLLTD. This section discusses the NLLTD as a case study and attempts to show how close reference to it in this study may inform or under-inform the production of other LSP dictionaries in Ndebele.

Firstly, it may be noted from the summary given in 8.1 that the issues discussed in this thesis are generally relevant for LSP lexicography in Ndebele, Zimbabwe and other African language communities in which identical sociolinguistic factors prevail. The general lexicographic approach and the functionalist approach to the compilation of not only LSP dictionaries but also those of other types may provide guidance to systematic lexicographic practice whose products are both practically useful and user-friendly. However, the fact that this study made special reference to one prospective dictionary, even though insights were drawn from other published dictionaries may have implications when it comes to other LSP dictionaries. The main issues that need to be considered in this respect would be the subject fields for which dictionaries would be compiled, their lexicographic functions and their resultant typological outlooks. The extent to which the NLLTD reference would make this study useful or limited when it comes to other dictionaries in respect of the issues that have just been mentioned, is briefly highlighted in the following subsections.

8.2.1 Subject Fields Treated in LSP Dictionaries

It is an attested fact that the nature of subject fields has direct implications for LSP dictionaries, although it still remains a fact that lexicographic principles have to be observed in order to produce dictionaries of high quality. This means that while this study discussed the key issues which need to be addressed in the compilation of LSP dictionaries, the fact that the major emphasis is on the linguistic and literary fields for which the NLLTD would be produced, implies that there may be other subject field specific issues which LSP lexicographers may need to take into account when compiling other dictionaries. Linguistics and literature are largely academic subjects, but LSP dictionaries are also needed for other disciplines which are practical and professional in addition to being academic. This may have an effect on the types of users and the lexicographic functions which the dictionaries may serve. For example, a legal dictionary would have translators as its users and translation functions in addition to those identified for the NLLTD. A legal dictionary may also have oral text production as its function. That way, it may require different data categories and means of presenting data since the skills of the users would not be the same as those of students of linguistics and literature.

Besides the above, some subject fields for which LSP dictionaries may be compiled in Ndebele may be more culture-bound or less culture-bound compared to linguistics and literature. This would have a definite effect on lemma selection and the provision of data categories such as definitions or explanatory notes. In that respect, the insights provided in this study may become limited when it comes to subject fields with a different degree of culture-specificity.

Finally, the size of the subject fields may also affect the compilation of dictionaries. Some of the subject fields may be so small that LSP dictionaries have to be maximising when it comes to lemma selection. Others may be extensive such that LSP dictionaries would focus on particular sub-fields of the disciplines in order to be relevant in a particular area. Yet other dictionaries may be compiled as multi-field LSP dictionaries. Such factors may raise some issues which were not addressed in this study. However, theoretical guidance demonstrated in this study may be highly valuable regardless of the subject fields being treated in LSP dictionaries other than the NLLTD.

8.2.2 Functions of LSP Dictionaries

Since every dictionary is compiled with a specific user in mind, the fact that the lexicographic functions of other LSP dictionaries in Ndebele have to be different from those of the NLLTD as noted in 8.2.2, would also raise other issues which were not addressed in detail in this study. The compilers of other dictionaries have to consider the provision of other data types according to the specific functions of those dictionaries. In addition, they will need to consider the reference skills of the target users of the concerned dictionaries. These factors may require different methods of presenting various types of lexicographic data.

8.2.3 Typological Possibilities in LSP Lexicography

It was noted in 4.6 that LSP lexicography is not delineated by a clear and exclusive typological classification of dictionaries. It was argued that dictionary typology should be functionally determined. LSP lexicography is generally characterised by typological hybrid. While the NLLTD would at best be a monolingual LSP dictionary with a

bilingual dimension (4.6; 6.3.2.2), a bilingual LSP dictionary of linguistic and literary terms may be compiled with Ndebele and English being language pairs. Another alternative which may be possible later on would be a purely monolingual one with Ndebele as the only language. In all these instances, other considerations may have to be taken into account which could not be addressed within the scope of this study. The point here is that this study did not address all the possibilities regarding LSP dictionaries as types of dictionaries such that the lexicographic functions of individual dictionaries will determine sub-typological issues which may not be relevant to all LSP dictionaries. All the same, it is hoped that the study managed to provide general guidance in regarding lemma selection, the provision of data categories and the utilisation of dictionary structures.

8.3 Review of the Problem Question

Although the previous section highlighted the possible limitations in providing all the guidance that may be required in the production of LSP dictionaries in Ndebele, it is important to note that the study intended to provide insights essentially in respect of the problem area. It may be noted that the issues raised in the preceding section could not be satisfactorily addressed within the scope of this thesis which may never be seen as a textbook on LSP lexicography. The study intended to address mainly the question raised in 1.2 which reads: *What theoretical considerations need to be taken into account in order to produce useful and user-friendly LSP dictionaries in Ndebele?* The two main postulates shared by the two theories which were appropriated into the theoretical framework for this study need to be considered in Zimbabwean lexicography in general. Guided by the two postulates, the study indicated, by making reference to published Zimbabwean dictionaries, the general management of lexicographic activities and the literature produced on Zimbabwean lexicography so far that lexicography is yet to be taken seriously as a professional activity. This refers particularly to the identification of the dictionaries needed by the communities and compiling them in view of the specific users, the specific problems they encounter in specific situations and the real lexicographic assistance which specific dictionaries may provide. The general theory of lexicography outlines the general procedure while the theory of lexicographic functions

emphasises the principle of thriving to achieve specific lexicographic functions by means of a dictionary. Once lexicography gets established as a problem-solving activity which results in dictionaries compiled according to the real needs of the users, their reference skills may be developed and so will dictionary using culture.

8.4 Conclusion

In this chapter, a summary of the thesis has been offered. Since the thesis intended to formulate a general model for LSP lexicography in Ndebele, the chapter also demonstrated the applicability of the model to various LSP dictionaries and also highlighted some issues which should be taken into account regarding specific dictionaries. In conclusion, it should be noted that various in-depth studies on the prospects of LSP lexicography in Ndebele still need to be done focusing, but not exclusively, on the individual issues discussed in this study in order to develop some ideas raised in this study or to address some oversights. Again, the theoretical approaches may also be applied to other types of dictionaries such as bilingual, translation and learners' dictionaries which the Ndebele community needs. Finally, this applies not exclusively to Ndebele lexicography but also to Zimbabwean and African language lexicography in general.

BIBLIOGRAPHY

Dictionaries and Encyclopaedias

- Baldick, C. 1990. *The Concise Dictionary of Literary Terms*. Oxford/New York: Oxford University Press.
- Chimhundu, H. (ed.) 1996. *Duramazwi reChiShona*. Harare: College Press.
- Chimhundu, H. (ed.) 2001. *Duramazwi Guru reChiShona*. Harare: College Press.
- Chimhundu, H. and Chabata, E. (eds.) 2007. *Duramazwi reDudziramutauo neUvaranomwe*. Gweru: Mambo Press. (Abbreviation: **DDU**).
- Coyle, M. et al. (eds.). 1990. *Encyclopedia of Literature and Criticism*. London: Routledge.
- Crystal, D. 1991. *A Dictionary of Phonetics and Linguistics* (3rd ed.) Oxford: Blackwell Publishers.
- Dent, G. R. and Nyembezi, C. L. S. 1969. *Scholar's Zulu Dictionary: English-Zulu, Zulu-English*. Pietermaritzburg: Shuter and Shooter.
- Elliot, W. A. 1897. *Dictionary of the Tebele and Shona Language*. London: David Nutt.
- Elliot, W. A. 1910. *Notes for a SiNdebele Dictionary and Grammar*. Bristol: The Sindebele Publishing Company.
- Gouws, R. H., Stark, M and Gouws, L. 2004. *Nuwe Woordeboek Sonder Grense*. Cape Town: Maskew Miller Longman.
- Hadebe, S. et al. (eds.) 2001. *Isichamazwi SesiNdebele*. Harare: College Press. (Abbreviation: **ISN**)
- Hartmann, R.R.K. and G. James. 1998. *Dictionary of Lexicography*. London/New York: Routledge.
- Hausmann, F. J. et al. (eds.) 1989-1991. *Wörterbücher. Dictionaries. Dictionnaires. An International Encyclopaedia of Lexicography*. Berlin: De Gruyter.
- Mheta, G. (ed.) *Duramazwi RemiMhanzi*. Gweru: Mambo Press. (Abbreviation: **DRM**)
- Mpofu, N. et al. (eds.) 2004. *Duramazwi reUrapi neUtano*. Gweru: mambo Press. (Abbreviation: **DUU**)
- Nkomo, D and Moyo, N. 2006. *Isichamazwi SezoMculo*. Gweru: Mambo Press. (Abbreviation: **ISM**)
- Pelling, J. N. 1966. *A Practical Ndebele Dictionary*. Harare: Longman Zimbabwe. (Abbreviation: **PND**)
- Richards, J. C et al. 1992. *Longman Dictionary of Language Teaching and Linguistics* (2nd ed.) Essex: Longman.
- Weale, M. E. 1903. *Matebele and Malaka Vocabulary: Intended for the use of the Prospectors and Farmers in Mashonaland*. Cape Town: Murray and St. Leger.

Other Literature

- Alberts, M. 1999. "Terminology in South Africa". In *Lexikos* 9: 18-35.
- Al-Kasimi, A. M. 1977. *Linguistics and Bilingual Dictionaries*. Leiden: E. J. Brill.
- Béjoint, H. 2000. *Modern Lexicography*. New York: Oxford University Press.
- Ayto, J. R. 1983. "On Specifying Meaning". In R.R.K. Hartmann (ed.) 1983: 89-98.
- Bergenholtz, H. 1995. "LGP and LSP". In H. Bergenholtz, and S. Tarp (eds.) 1995: 16-20.

- Bergenholtz, H. 2003. "User-oriented Understanding of Descriptive, Proscriptive and Prescriptive Lexicography". In *Lexikos* 13: 65-80.
- Bergenholtz, H. and Tarp, S. (Eds.) 1995. *Manual of Specialised Lexicography*. Amsterdam: J. Benjamins.
- Bergenholtz, H. & Tarp, S. 2003. "Two Opposing Theories: On Wiegand's Recent Discovery of Dictionary Functions". In *Hermes, Journal of Linguistics* 31: 171-196.
- Bergenholtz, H., Tarp, S. & Wiegand, H. E. 1999. "Datendistributionsstrukturen, Makround Mikrostrukturen in neueren Fachwörterbüchern". In Hoffmann, L. Et al. (eds.) *Facsprachen. Languages for Special Purposes. An International Handbook of Special-Language and Terminology Research*. Berlin: De Gruyter: 1762-1832.
- Burkhanov, I. 2004. "Requirements for an "Ideal" Bilingual L1→L2 Translation-Oriented Dictionary". In *Lexikos* 14: 17-34.
- Carstens, A. 1997. "Issues in the Planning of a Multilingual Explanatory Dictionary of Chemistry for South African Students". In *Lexikos* 7: 1-24.
- Carstens, A. 1999. "Science through Sepedi: Is Terminologisation a Worthwhile Venture?" In *Lexikos* 9:1-17.
- Chabata, E. 2007. "The African Languages Research Institute: A Milestone in the Development of the Zimbabwean Languages". In *Lexikos* 17: 278-291.
- Chimhundu, H. 1994. *The ALLEX Project: Second Progress Report*. Harare: University of Zimbabwe Reprographic Unit.
- Chimhundu, H. 2005. "Lexicography and Language Raising: Dictionaries in Zimbabwean Languages". A Public Lecture Delivered as Part of the Golden Jubilee Celebrations of the University of Zimbabwe (13 April 2005). Harare: University of Zimbabwe.
- Cluver, A. D. de V. 1980. "The Development of a Terminological theory in South Africa". In *International Journal of the Sociology of Language* 23: 51-64.
- Cressy, D. 1990. "Literacy". In M. Coyle et al. (eds.) 1990: 837-847.
- De Schryver, G-M. 2005. "Concurrent Over- and Under-Treatment in Dictionaries – The *Woordeboek van die Afrikaanse Taal* as a Case in Point". In *International Journal of Lexicography* 18 (1): 47–75.
- Dlodlo, T.S. 1999. "Science Nomenclature in Africa: Science in Nguni". In *Journal of Research in Science Teaching*. 36 (3): 321-331.
- Doke, C. M. 1931. *Report on the Unification of Shona Dialects*. Hertford: Stephen Austin and Sons.
- Duvå, G. and Lauser, A-L. 1995. "User Survey". In H. Bergenholtz and S. Tarp (eds.) 1995: 77-83.
- El-Sayed, D. H. 1984. "Notes on the Arabization of the terminology of modern linguistics". In R.R.K. Hartmann (ed.) 1984: 345-351.
- Emejulu, J.D.P. (ed.) 2001. *Eléments de Lexicographie Gabonaise. Tome I*. New York: Jack Hillman Publishers.
- Emejulu, J.D.P. (ed.) 2002. *Eléments de Lexicographie Gabonaise. Tome II*. New York: Jack Hillman Publishers.
- Fowler, R. 1990. "Literature". In M. Coyle et al. (eds.) 1990: 1-15.

- Gangla-Birir, L. 2005. "The Use of Pictorial Illustrations in African Language Dictionaries". In *Lexikos* 15: 38-51.
- Gilreath, C. T. 1993. "Onometrics: The Formal Evaluation of Terms". In R. A. Strechlow and S. E. Wright (eds.) 1993: 75-94. *Standardising Terminology for Better Communication*. Philadelphia: ASTM.
- Gläser, R. 1984. "Terminological Problems in Linguistics with Special Reference to Neologisms". In R.R.K. Hartmann (ed.) 1984: 345-351.
- Gläser, R. 2000. "Should LSP Dictionaries also include Professional Jargon and slang?" *Lexikos* 10: 86-98.
- Gouws, R. H. 1989. *Leksikografie*. Cape Town: Academica.
- Gouws, R. H. 1991. "Lexicon-based Lexicography". In *Dictionaries* 13: 75-90.
- Gouws, R. H. 1994. "Ostensive addressering in vertalende woordboeke". In *Lexikos* 4: 61-85.
- Gouws, R. H. 1996. "A Sequence of Meeting lexicographic Needs". In *Lexicography as Financial Asset in Multilingual South Africa*. Department of Science and Culture, South Africa. 1996: 97-110.
- Gouws, R. H. 1999. "Mediostructural Representation, textual condensation and user-orientation in the WAT X". In *Lexicographica: International Annual for Lexicography* 15: 4-37.
- Gouws, R. H. 2001. "Lexographic Training: Approaches and Topics". In J. D. P. Emejulu (ed.) 2001 : 58-69. New York: Jack Hillman Publishers: 58-94.
- Gouws, R. H. 2002. "Niching as a Macrostructural Procedure". In *Lexikos* 12: 133-158.
- Gouws, R. H. 2002a. "Using a Frame Structure to Accommodate Cultural Data". In J. D. Emejulu (ed.) 2002: 54-69. New York: Jimacs-Hillman.
- Gouws, R. H. 2004. "Outer Texts in Bilingual Dictionaries". In *Lexikos* 14: 67-88.
- Gouws, R. H. 2004a. "Monolingual and Bilingual Learner's Dictionaries". In *Lexikos* 14: 264-274.
- Gouws, R. H. 2006. "Discipline, dilemmas, decisions and data distribution in the planning and compilation of monolingual dictionaries". In *Lexikos* 16: 84-94.
- Gouws, R. H. 2007. "A Transtextual Approach to Lexicographic Functions". In *Lexikos* 17: 77-87.
- Gouws, R. H. and Prinsoo, D. J. 1998. "Cross-referencing as a Lexicographic Device". In *Lexikos* 8: 17-36.
- Gouws, R. H. and Prinsloo, D. J. 2005. *Principles and Practice in South African Lexicography*. Stellenbosch: Sun Press.
- Hachipola, S. J. 1998. *A Survey of the Minority Languages of Zimbabwe*. Harare: University of Zimbabwe.
- Hadebe, S. 2002. "The Standardisation Of Ndebele Through Dictionary-making". DLitt. Dissertation. Harare/Oslo: University of Zimbabwe/University of Oslo.
- Hadebe, S. 2002a. "The Ndebele Language Corpus: A Review of Some Factors Influencing the Content of the Corpus". In *Lexikos* 12: 159-170.
- Hadebe, S. 2006. *The Standardisation of the Ndebele Language Through Dictionary-making*. Oslo: The ALLEX Project.
- Haralambos, M. and Holborn, M. 1995. *Sociology: Themes and Perspectives*. Harper Collins Publishers, London.
- Hartmann, R. R. K. 1983. "On Theory and Practice". In R. R. K. Hartmann (ed.) 1983: 3-12.

- Hartmann, R. R. K. (ed.) 1983. *Lexicography: Principles and Practice*. London: Academic Press.
- Hartmann, R. R. K. (ed.) 1984. *LEX'eter '83 Proceedings*. Tübingen: Max Niemeyer.
- Hartmann, R. R. K. 1989. "The Sociology of the Dictionary User". In F. J. Hausmann et al. (eds.) 1989-1991: 328-360.
- Hartmann, R. R. K. (ed.) 1990. *Lexicography in Africa*. Vol.15. Exeter Linguistic Studies. Exeter. University of Exeter Press.
- Hartmann, R. R. K. 1999. "What is Dictionary Research?" *International Journal of Lexicography* 12 (2): 155-161.
- Hartmann, R. R. K. 2001 *Teaching and Researching Lexicography*. Harlow: Pearson Education Ltd.
- Hartmann, R. R. K. 2005. Lexicography and its Interdisciplinary Contacts with Special Reference to Onomasiology. *Lexikos* 15: 70-89.
- Hausmann, F. J and Wiegand, H. E. 1989. "Component Parts and Structures of General Monolingual Dictionaries: A Survey." In F. J. Hausmann et al. (eds.) 1989-1991: 328-360.
- Hobbs, D. and Wright, R. (eds.) 2006. *The SAGE Handbook of Fieldwork*. London: SAGE.
- Householder, F. W and Sarpota, S. (Eds.) 1967. *Problems in Lexicography*. Bloomington: Indiana University.
- Hunter, E. 2000. "Do we still need Classification?" In R. Marcella and A Maltby (eds.) 2000: 1-18.
- Jacobson, S. 1984. "Three Types of Terminologies". In R. R. K. Hartmann (ed.) 1984: 355-361.
- Khumalo, L. 2002. "Defining Formats and Corpus-based Examples in the General Ndebele Dictionary". In *Lexikos* 12: 264-274.
- Khumalo, L. 2003. *Introduction to Ndebele Grammar*. CASAS, Cape Town.
- Khumalo, L. 2003a. "Nguni Languages in Development: Their Role and Status". In Chebane et al. (eds.) 2003: 169-171. *Unifying Southern African Languages*. Cape Town: CASAS.
- Khumalo, L. 2007. Considerations for Providing Etymological Information in the Advanced Ndebele Dictionary". In *Lexikos* 17: 307-315.
- Landau, S. I. 2001. *Dictionaries: The Art and Craft of Lexicography*. (2nd ed.) Cambridge: Cambridge University Press.
- Langridge, D. W. 1992. *Classification: Its Kinds, Systems, Elements and Applications*. London/Melbourne/Munich/New York: Bowker-Saur.
- Litosseliti, L. 2003. *Using Focus Groups in Research*. London/New York: Continuum.
- Louw, P. A. 1999. "The Access Structure of a Standard Translation Dictionary". In *Lexikos* 9: 108-118.
- L'Homme, M.-C. 2003. "Capturing the Lexical Structure in Special Subject Fields with Verbs and Verbal Derivatives. A model for Specialized Lexicography". In *International Journal of Lexicography* 16 (4): 403-421.
- Malkiel, Y. 1967. "A Typological Classification of Dictionaries on the basis of Distinctive Features". In F. W. Householder and S. Sarpota (eds.) 1967: 3-24.
- Maltby, A. 1975. *Sayers' Manual of Classification for Librarians*, 5th ed. London: Deutsch.

- Maltby, A and Marcella, R. 2000. "Organizing Knowledge: The need for System and Unity". In R. Marcella and A. Maltby (eds.) 2000: 193-202.
- Maltby, A and Marcella, R. (eds.) 2000. *The Future of Classification*. Hampshire: Gower Publishing Ltd.
- Maphosa, M. 1997. "The Morphological Structure of the Noun and its Implications on the Ordering of Entries in Ndebele Dictionaries". Unpublished B.A. Honours Thesis. Harare: University of Zimbabwe.
- Maphosa, M. 1999. "The Morphological Structure of the Verb in Ndebele and its Implications on Headword and Sense Selection". Unpublished M.A. Thesis. Harare: University of Zimbabwe.
- Maphosa, M. 2003. "The Users' Perspectives on Isichazamazwi SeSiNdebele". A Paper presented at the 8th International AFRILEX Conference. 7-9 July. Windhoek: University of Namibia.
- Mavoungou, P. A. 2005. "On Issues of Labelling in the *Dictionnaire Français-Mpongwé*: Case-study". In *Lexikos* 15:102-116.
- McArthur, T. 1986. *Worlds of Reference*. Cambridge: Cambridge University Press.
- McArthur, T. 1986a. "Thematic Lexicography" in R.R.K Hartmann (ed), *The History of Lexicography*, Amsterdam/Philadelphia: John Benjamins Publishing Company. 1986:157-165.
- McNaught, J. 1982. "Specialised Lexicography in the Context of a British Linguistic Data Bank". In J. Goetschalckx and L. Rolling (eds.) 1982: 171-184. *Lexicography in the Electronic Age*. North-Holland Publishing Company.
- Mheta, G. (forthcoming). "The Treatment of Encyclopaedic Information in *Duramazwi remiMhanzi*". In *Lexikos* 19.
- Mihindou, G.-R. 2004. "Some Features of LSP Dictionaries". In *Lexikos* 14: 118-136.
- Moyo, P. 1998. "Using the Predictability Criterion for Headword Selection in the General Ndebele Dictionary". Unpublished B.A. Honours Thesis. Harare: University of Zimbabwe.
- Mphahlele, M. C. 2004. "The Transliteration Principle: Is it the best for African languages?" In *Lexikos* 14: 339-348.
- Mpofu, N. & Mangoya, E. 2005. "The Compilation of the Shona-English Biomedical Dictionary: Problems and Challenges". In *Lexikos* 15: 117-131.
- Msimang, C. T. 2000. "Grammatical Terminology for the Teaching of African Languages at Tertiary Level". In *Lexikos* 10: 225-233.
- National Language Policy Advisory Panel. 1998. "Report on the Formulation of a National Language Policy". Unpublished.
- Ncube, C. 2002. "ALRI Outreach Programme Report". Unpublished.
- Ndebele, J. P. 1984. *Ihawu Labafundi* 3. Harare: College Press.
- Ndebele, J. P. 1984a. *Ihawu Labafundi* 4. Harare: College Press.
- Ndhlovu, F. 1998. "Considering Factors that are Relevant to Adopting and Adapting COBUILD Defining Formats for the General Ndebele Dictionary". Unpublished M.A. Thesis. Harare: University of Zimbabwe.
- Neuman, W. L. 2000. *Social Research Methods* (4th ed.) Needham Heights: Allyn and Bacon.
- Nielsen, S. 1995. "Alphabetic Macrostructure". In H. Bergenholtz and S. Tarp (eds.) 1995: 190-195.

- Nielsen, S. 1995a. "Systematic Macrostructure." In H. Bergenholtz and S. Tarp (eds.) 1995: 195-200.
- Nielsen, S. 1999. "Mediostructures in Bilingual LSP Dictionaries". In *Lexicographica: International Annual for Lexicography* 15: 91-113.
- Nkomo, D. 2003. "The Microstructure and the Accessibility of Dictionary Information: An Analysis of *Isichazamazwi SesiNdebele*". Unpublished B.A. Honours Thesis. Harare: University of Zimbabwe.
- Nkomo, D. 2005. "Compiling Specilised Dictionaries in African Languages: *Isichazamazwi SezoMculo as a Special Reference*". In *Zambezia: The Journal of Humanities of the University of Zimbabwe* 32 (i/ii): 64-77.
- Nkomo, D. 2007. "Some Deficinecies in the Mediostructure of *Isichazamazwi SesiNdebele*". In *Lexikos* 17: 372-384.
- Nkomo, D. 2008. "Indigenous Languages for Culture, Science and Technology in Africa: On the Contributions of Lexicography and Terminology Development". In *Postamble* 4 (1): 42-58.
- Nkomo, D. 2008a. "Not Mere Lexicographic Cosmetics: The Structure of *Isichazamazwi SezoMculo*". *Lexikos* 18 (forthcoming).
- Nkosi, N. and Msomi, N. 1992. *Izikhali Zabafundi Nabaqeqeshi*. Pietermaritzburg: Reach Out Publishers.
- Norman, G. 2002. "Description and Prescription in Dictionaries of Scientific Terms". In *International Journal of Lexicography* 15 (4): 251-272.
- Nyathi, P. 1998. *Igugu LikaZulu*. Pietermaritzburg: Reach Out Publishers.
- Nyembezi, S. 1982. *Uhlelo LwesiZulu*. Pietermaritzburg: Shuter and Shooter.
- Nziramasaanga, C.T. et al. 1999. *Report of the Presidential Commission of Inquiry into Education and Training*. Harare: Government Printer.
- Osselton, N. E. 1983. "On the history of Dictionaries". In R. R. K Hartmann (ed.) 1983: 13-21.
- O'Leary, Z. 2004. *The Essential Guide to Doing Research*. London: Sage Publication.
- Pedersen, J. 1995. "Systematic Classsification". In H. Bergenholtz, and S. Tarp (eds.) 1995: 83-93. *Manual of Specialised Lexicography*. Amsterdam: J. Benjamins.
- Prinsloo, D. J. 1994. "Lemmatization of verbs in Northern Sotho". In *SA Journal of African Languages* 14 (2): 93-102.
- Renouf, A. 1987. "Corpus Development". In J. M. Sinclair (ed.) 1987: 1-40. *Looking Up*. London and Glasgow: Collins LET.
- Sager, J. A. 1996. *A Practical Course in Terminology Processing*. Amsterdam: John Benjamins Publishing Company.
- Sager, J. C. 1984. "Terminology and the Technical Dictionary". In R. R. K. Hartmann (ed.) 1984: 315-326.
- Saha, P. K. 1994. "Dictionary Definitions of Linguistic Terms". In *Dictionaries* 15: 149-158.
- Schratz, M. and Walker, R. 1995. *Research as a Social Science: New Opportunities for Qualitative Research*. London and New York: Routeledge.
- Smit, M. 1996. "Wiegand's Metalexigraphy as a Framework for Multilingual, Multicultural, Explanatory Music Education Dictionary for South Africa". Unpublished DPhil. Thesis. Stellenbosch: University of Stellenbosch.

- Smit, M. 1998. "A Multilingual, Multicultural, Explanatory Music Education Dictionary for South Africa – Using Wiegand's Metalexigraphy to establish its Purposes, Functions and Nature". In *Lexikos* 8: 88-97.
- Smit, M. 2001. "Herbert Wiegand with a "Metalexigraphical Panga" in the Jungle: An Unlocking of the *Worterbuchforschung*". In *Lexikos* 11: 296-310.
- Smit, M. 2002. "The Systematic Development of Wiegand's Metalexigraphy as Demonstrated in *Kleine Schriften*". In *Lexikos* 12: 290-310.
- Steyn, M. 2004. "The Access Structure in Learner's Dictionaries". In *Lexikos* 12: 275-298.
- Steyn, M. and Gouws, L. 2005. "*Nuwe Woordeboek Sonder Grense: A Typological and Communicative Bridge*". In *Lexikos* 15: 164-178.
- Sutherland, J. 1990. "Production and Reception of Literary Work". In M. Coyle et al. (eds.): 809-824.
- Taljaard, P. C. and Bosch, S. E. 1988. *A Handbook of IsiZulu*. Pretoria: J. L. Van Schaik.
- Taljaard, E. 2004. "Semi-automatic Retrieval of Definitional Information: A Northern Sotho Case Study". In *Lexikos* 14: 163-174.
- Taljaard, E. and De Schryver, G-M. 2002. "Semi-automatic Term Extraction for the African Languages, with Special Reference to Northern Sotho". In *Lexikos* 12: 44-74.
- Taljaard, E. et al. 2007. "Issues in the Planning and Design of a Bilingual (English Northern Sotho) Explanatory Dictionary for Industrial Electronics". In *Lexikos* 17: 152-169.
- Tarp, S. 1995. "Specialised Dictionary Functions". In H. Bergenholtz, and S. Tarp (eds.) 1995: 20-28).
- Tarp, S. 1999. "Theoretical foundations of the so-called cross-reference structures". In *Lexicographica: International Annual for Lexicography* 15: 114-137.
- Tarp, S. 2000. "Theoretical Challenges to Practical Specialised Lexicography". In *Lexikos* 10: 189-208.
- Tarp, S. 2002. "Basic Elements of Lexicographic Theory". In J. Duplessis Emejulu (ed.). 2002: 7-20. New York: Jimacs-Hillman.
- Tarp, S. 2004. "Basic Problems of Learner's Lexicography". In *Lexikos* 14: 222-252.
- Tarp, S. 2004a. "Reflections on Dictionaries Designed to Assist Users with Text Production in a Foreign Language". In *Lexikos* 14: 299-325.
- Tarp, S. 2005. "The Pedagogical Dimension of a Well-Conceived Specialised Dictionary". In *Iberica. Journal of European Languages for Specific Purposes* 10: 7-21.
- Tarp, S. 2007. "Lexicography in the Information Age". *Lexikos* 17: 70-79.
- Tomaszczyk, J. 1984. "The Culture-bound element in bilingual Dictionaries". In R.R.K. Hartmann (ed.) 1984: 289-297.
- Tsakona, V. 2007. "Bilingualisation in Practice: Terminological Issues in the Bilingualisation of a Specialised Glossary". In *International Journal of Lexicography* 20 (2): 119-145).
- Wiegand, H. E. 1984. "On the Structure and Contents of a general Theory of Lexicography". In R. R. K. Hartmann (ed.) 1984: 13-30.

- Wiegand, H. E. 1988. "Was eigentlich ist Fachlexikographie?" In H. H. Munske et al. (Hrsg.) *Deutsche Wortschatz: Lexikologische Studien*: 729-790. Berlin: De Gruyter.
- Wiegand, H. E. 1996. "Textual Condensation in Printed Dictionaries: A Theoretical Draft". In *Lexikos* 6: 133-158.
- Wiegand, H. E. 1996a. "A Theory of Lexicographic Texts: An Overview". In *S A Journal of Linguistics* 14 (4): 134-149.
- Wiegand, H. E. 2004. "Reflections on the Mediostructure in Special-Field Dictionaries". In *Lexikos* 14: 195-221.
- Wisker, G. 2001. *The Post-graduate Research Handbook: Succeed with your M.A, MPhil., EdD. and PhD.* Basingstoke: Palgrave.
- Yong, H. and Peng, J. 2007. *Bilingual Dictionaries from a Communicative Perspective.* Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Zgusta, L. 1971. *Manual of Lexicography.* The Hague: Mouton and Company.
- Zimbabwe Education Act (Part XI, Section 55, p.225),* Government Publications, Harare.

Electronic Source

Ndebele Language Corpus. <http://10.8.9.23/cgi-bin/alri-search>.

APPENDICES

Appendix 1

QUESTIONNAIRE 1: *The questionnaire investigates the prospective NNLTD users' awareness of Ndebele dictionaries and dictionary culture in general in order to determine their reference needs particularly from the NLLTD.*

NAME (OPTIONAL):-----

OCCUPATION:-----

INSTITUTION:-----

1. Indicate the level to which you have studied any of the following:
 - a) Ndebele grammar/ linguistic structure -----
 - b) Ndebele literature -----
 - c) Lexicography -----

2. Which Ndebele dictionaries do you know? Also indicate if you have ever owned, used, studied or just seen each of them e.g. *Isichazamazwi* (owned and consulted...)

3. Indicate any extra information type which you think should have been included in any one Ndebele dictionary that you have consulted or studied e.g. equivalence in *Isichazamazwi* and briefly explain your view:

4. Indicate any one information type which you think should have been excluded in any one Ndebele dictionary that you have consulted or studied e.g. equivalence in *Isichazamazwi* and briefly explain your view:

5. Besides Ndebele dictionaries, name other dictionaries in any language that you have consulted e.g. *Isichazamazwi Sanamhla Nangomuso* (Zulu).

6. In addition to the available dictionaries in Ndebele, state (an-)other dictionary(-y)ies you would require and explain briefly the purposes for which you would need them.

7. Against the English terms in bold are a number of the available Ndebele terms for possible inclusion in the prospective Ndebele dictionary of linguistic and literary terms. Indicate your views for or against inclusion of each or some of them.

a) **linguistics**: inhlaziyozilimi, ulimimphakathi, ulimingqondo, ilingwisitika

b) **phonology**: ingcwengamisindo, ingcwengazinhlamvu, ifonoloji

c) **semantics**: unokutsho, isayensi yenhlaziyo yokutshiwo lulimi, isemantika

d) **sociolinguistics**: ulimimphakathi, ulimibandla, isosiyolingwisitika

e) **demonstrative**: unonkomba, unokukhomba, isabizwana sokukhomba

f) **fricative**: umfuthwa, unywaqa omfuthwa, umahlikihlwa

g) **grammar**: igirama, igrama, imithetho, ukubunjwa, ukuloba inkulumo

h) **literature**: imibhalo, ilithiritsha, izicwadimfundo

i) **oral literature**: ilithiritsha yomlomo, inkulumomibhalo

j) **novel**: ugwalo, ibhuku, inoveli

k) **drama**: umdlalo, idrama, idirama

l) **verse**: isotsha, inkondlo, ivesi, indima, imigqa

m) **irony**: isibhinqo, umbhinqo, umbhuqo, ukubhuqa

8. Any general view on the nature of terms that you think should be entered in the Ndebele dictionary of linguistic and literary terms?

9. Consider the following information types for possible inclusion for each term that will be included as a headword in the Ndebele dictionary of linguistic and literary terms. Indicate with a plus sign or minus sign your need or lack of need for each and then explain your view.

Information Type	Need or no need	Explanation
spelling		
meaning		
synonyms		
variants		
examples of usage		
grammatical information		
etymological information		
usage label, e.g. lit. for a literary term		
tone		
pronunciation		

Appendix 2

QUESTIONNAIRE 2: *The questionnaire investigates the prospective>NNLTD users' awareness of Ndebele dictionaries and dictionary culture in general in order to determine their reference skills.*

NAME (OPTIONAL):-----

OCCUPATION:-----

INSTITUTION:-----

1. Indicate the level to which you have studied any of the following:

- d) Ndebele grammar/ linguistic structure -----
- e) Ndebele literature -----
- f) Lexicography -----

2. What do you consider to be the major shortcomings of the available dictionaries that you have used in Ndebele in terms of presenting information?

3. The available Ndebele dictionaries contain the following features and conventions. Indicate your interpretation of each of the following in the following table.

Feature/convention	Meaning
Bold print	
square brackets	
BONA	
bz.	
bz 5	
sz	
sz mwa.	
numbers after headwords	
italicised information	
FAN	
KHA	

4. Did you have problems in understanding the use of any of the above conventions now or at any one point during dictionary consultation?

5. If the affirmative is your answer to 5, indicate if you finally succeeded in interpreting the conventions and if so what guided you?

6. Do you have any reservations and suggestions regarding the use of any of the features in the above table?

7. Have you ever consulted the front matter of any dictionaries that you have used?

8. Why do you think the front matter is important in dictionaries?

9. Consider the methods of ordering articles in the following NLLTD sample articles and then indicate and explain your preference.

- a) Strictly vertical alphabetical ordering e.g. **ungwaqa** bz. 1a consonant (ENG)...
ungwaqabathwa bz. 1a click (ENG)...
unkamisa bz. 1a vowel (ENG) ...
unkamisamqoka bz. 1a cardinal vowel (ENG) *Unkamisamqoka*
ngunkamisa ...

- b) Thematic e.g. **ISICHASISO** bz. 8 *Isichasiso* ligama elichaza usobizo elimlandelayo emutshweni. Mine imihlobo yezichasiso; isiphawulo, isibaluli, inani lobumnini.
isibaluli bz. 8 relative descriptive *Isibaluli* yisichasiso esi...

isiphawulo bz. 8 relative adjective (ENG)

Isiphawulo yisichasiso esi...

ubumnini bz 8 possessive (ENG) *Ubumnini*

yisichasiso esi...

inani bz 5 selector (ENG) *Inani* yisichasiso esi...

10) Use the space below for any other contribution regarding the provision or presentation of dictionary data in the proposed NLLTD or any other Ndebele dictionary?

