

**Implementation of multilingualism in South African  
higher education: Exploring the use of isiXhosa in  
teaching and learning at Rhodes University**

**Thesis submitted in fulfillment of the  
requirements for the degree of**

**MASTER OF ARTS**

**at**

**RHODES UNIVERSITY**

**by**

**Wanga Gambushe**

**Supervisor: Dr D Nkomo**

**Co-supervisor: Dr P Maseko**

**February 2015**

## DECLARATION

I, the undersigned, hereby declare that this thesis is my own original work and has not, in its entirety or part, been submitted at any university for a degree.

**SIGNED** \_\_\_\_\_

**DATE**\_\_\_\_\_

## **DEDICATION**

I dedicate this thesis to my late brother, Msekeli Mayana. Thaaaaaats Good *Yihlo!*

## ACKNOWLEDGEMENTS

Firstly, I would like to thank God for the strength to get this work done.

This research was financially supported by the Department of Higher Education and Training (DHET)) through the Center for Critical Research on Race and Identity (UKZN). In this regard, I would like to thank the DHET and the CCRRI. However, the ideas expressed in this thesis should not be attributed to those organizations but to the author.

I would like to thank my supervisors, Dr Dion Nkomo and Dr Pamela Maseko for their guidance and advice throughout the two years of conducting this study.

I am very grateful to my family for their patience with and cheering me on as I embarked on another degree. To my mother, I would like to say *enkosi kakhulu Mboyi, kunjenje kungenxa yakho*. To my brothers, sisters and nephews, *ndiyabulela kakhulu*.

I would like to thank all the staff members of the African Languages Studies at Rhodes University. Your interest in my progress always made me work harder because there were people interested in the completion of the study. I would also like to thank the Biological Sciences and Botany departments for allowing me to conduct this study. To all the research participants, I am very grateful for your willingness to participate.

To all my friends, I would like to say thank you to you all. To my friends, Pumeza and Sisonke thank you for always being there through the good and bad times of conducting this study, as we always say, *kukude kulo thesis*.

## ABSTRACT

This study explores the implementation of multilingualism at Rhodes University (RU), by examining the teaching and learning practices of lecturers, demonstrators and students within the Cell Biology module, offered by the Biological Sciences and Botany departments at RU. This examination is in line with RU's Language Policy (2005/2014), which recognises multilingualism and the development of isiXhosa as an academic/scientific language. The study and the choice for the location of the study within RU was motivated by what seemed to be a pattern of under achievement of LOTE speaking students studying Cell Biology. This pattern necessitated a further inquiry into the language aspect of the teaching and learning of Cell Biology.

The goals of this research were to investigate spaces where LOTE students use their home languages and the motivations behind their usage of those languages. Due to the varying proficiencies of LOTE students in their mother tongue, this study sought to investigate the language capabilities of LOTE students in their home languages. The perceptions of the main role players in the Cell Biology module were sought, in order to get an idea of what students, lecturers and demonstrators thought about multilingualism in teaching and learning practices in the Cell Biology module.

This study has discovered that there is a disparity in achievement between LOTE and English speaking students, with English students outperforming LOTE students consistently in the period investigated. On the language capabilities of LOTE students in their mother tongue, it was discovered that they have enough linguistic capital for a mother tongue intervention to succeed. There were mixed views about the use of LOTE in HE, but students were mostly in favour of the use of LOTE. A number of recommendations are made as to how multilingualism can be implemented in Cell Biology.

In this study I argue that there is a need to use the mother tongue of LOTE students in order to support learning, the mother tongue intervention is supported by scholars such as Paxton (2007, 2009; Madiba 2011, 2012, 2014). The use of the mother tongue to support learning should be a short-term measure while the process of the development of African languages is underway, because languages develop as they are used, and form follows function (Madiba 2008). Ultimately, African languages should be developed and use as academic languages in HE not only in order to fulfil the legislative imperatives such as the Constitution and the

Language Policy for Higher Education but also to increase access and success among LOTE students.

## ABBREVIATIONS/ACRONYMS

ADP	Academic Development Programme
Dem-1	Demonstrator-1
IS-1	Interviewed Student-1
LANGTAG	Language Plan Task Group
LOTE	Languages Other Than English
LiEP	Language in Education Policy
LPHE	Language Policy for Higher Education
OS-1	Observed Student-1
PanSALB	Pan South African Languages Board
RU	Rhodes University

## Table of Contents

<b>Declaration.....</b>	<b>i</b>
<b>Dedication.....</b>	<b>ii</b>
<b>Acknowledgements.....</b>	<b>iii</b>
<b>Abstract.....</b>	<b>iv</b>
<b>Abbreviations/Acronyms.....</b>	<b>vi</b>

### CHAPTER ONE

#### INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction.....	1
1.2 The language question in South African education.....	1
1.3 Multilingualism in higher education.....	5
1.4 Cell Biology class and statement of the problem.....	6
1.5 Objectives of the study.....	7
1.6 Significance of the study.....	10
1.7 Exposition of chapters.....	11
1.8 Conclusion.....	12

### CHAPTER TWO

#### HISTORICAL AND LEGISLATIVE FRAMEWORK

2.1 Introduction.....	13
2.2 Introduction of Afrikaans/Dutch and English in South Africa.....	13
2.2.1 The history of Afrikaans.....	14
2.2.2 The history of English in South Africa.....	15
2.3 IsiXhosa and education during the pre-literate period.....	17

2.4 The development of isiXhosa for use in formal education.....	19
2.5 The 1910-1948 period; language development during that period. ....	23
2.6 The 1948-1976 period, Bantu Education.....	25
2.7 The 1976-1994 period.....	27
2.8 The post-apartheid South African language policy as stipulated in the Constitution.....	28
2.9 LANGTAG and the PanSALB.....	29
2.9.1 LANGTAG.....	29
2.9.2 PanSALB.....	31
2.10 South African language in education policy (1997).....	32
2.11 Language Policy for Higher Education (LPHE 2002).....	34
2.12 The Development of African Languages for use as Medium of Instruction in South African Higher Education Institutions (2003).....	38
2.13 Rhodes University's Language Policy (2005/2014).....	39
2.14 The more things change; the more they stay the same.....	42
2.15 Conclusion.....	43

## **CHAPTER THREE**

### **LITERATURE REVIEW**

3.1 Introduction.....	44
3.2 Bilingual Education.....	44
3.3 Development of Scientific/Academic concepts.....	54
3.4 African languages in higher education.....	59
3.5 Conclusion.....	75

**CHAPTER FOUR**  
**METHODOLOGY**

4.1 Introduction.....77

4.2 Research Design: A Case Study of Cell Biology Module.....77

    4.2.1 Weaknesses of case studies.....80

4.3 Research participants.....82

4.4 Instruments for data collection.....84

    4.4.1 Annual Cell Biology Performance and Linguistic Data (2002-2013).....84

    4.4.2 Participant observation.....85

    4.4.3 Questionnaire Survey.....86

    4.4.4 Language Proficiency Exercise.....87

    4.4.5 Interviews.....88

4.5 Data Analysis Procedure.....89

4.6 Conclusion.....90

**CHAPTER FIVE**  
**DATA PRESENTATION**

5.1 Introduction.....91

5.2 Cell Biology marks over 10 years: LOTE versus English students' marks.....91

5.3 Language composition of the role players in the Cell Biology module.....94

5.4 The use of LOTE in teaching and learning situations.....96

5.5 Perceptions of role players about the use of LOTE in teaching and learning .....101

5.6 Learning support materials.....108

5.7 The impact of language on demonstrator support.....109

5.8 LOTE student language capabilities in their home language.....111

5.9 Conclusion.....114

## **CHAPTER SIX**

### **DATA ANALYSIS AND DISCUSSION**

6.1 Introduction.....	116
6.2 Cell Biology students' performance along language lines over 10 years.....	116
6.3 Linguistic composition of the Cell Biology students.....	120
6.4 Linguistic composition of Cell Biology teaching staff.....	121
6.5 The use of African languages in teaching and learning situations.....	123
6.5.1 The use of LOTE as was observed and what can be made out of those observations.....	124
6.5.2 What do students make of their usage of LOTE.....	126
6.6 Perceptions of role players about the use of LOTE to support formal teaching and learning.....	130
6.7 Learning support materials.....	135
6.8 Demonstrators language support.....	136
6.9 LOTE students' capabilities in their home language.....	138
6.10 Conclusion.....	139

## **CHAPTER SEVEN**

### **FINDINGS AND RECOMMENDATIONS**

7.1 Introduction.....	140
7.2 Findings.....	140
7.3 Recommendations.....	144
7.4 Areas for further research.....	148
7.5 Conclusion.....	148

## **CHAPTER EIGHT**

### **SUMMARY AND CONCLUSION**

8.1 Summary and conclusion.....	150
<b>Bibliography.....</b>	<b>152</b>
<b>Appendix A .....</b>	<b>166</b>
<b>Appendix B.....</b>	<b>168</b>
<b>Appendix C.....</b>	<b>171</b>

## **CHAPTER ONE**

### **INTRODUCTION AND BACKGROUND OF THE STUDY**

#### **1.1 Introduction**

The purpose of this chapter is to provide a background to the study by discussing the context within which the study was conducted. This is done by discussing the language question in South African education system, in particular the issue of medium of instruction and multilingualism in education with a particular focus on higher education. Multilingualism is a phenomenon that the world is seeing more as a reality that cannot be wished away, but in South Africa, this reality was unfortunately not recognised by the apartheid government. Instead, multilingualism was used as a tool for division of the South African people. Under the post-apartheid government, multilingualism has been embraced as will be discussed briefly in this chapter. Rhodes University, as the research site where this study was conducted is discussed briefly in order to give the reader an understanding of the context of this research. The chapter further enumerates the objectives of the study, whilst providing the motivation and importance of the study. The last section provides a breakdown of the rest of the chapters that constitutes this study.

#### **1.2 The language question in South African education**

The language question has been a major issue of debate in South Africa and across the African continent. One of the major reasons why language is a major talking point has to do with the colonial history of the African continent. The whole continent was divided among the most powerful of the European countries for economic gain and these divisions resulted in the linguistic map of Africa matching the linguistic map of the European super powers, i.e. Anglophone Africa, Francophone Africa and Lusophone Africa (Bamgbose 1991; Alexander 2003; Ngugi 1987). This linguistic legacy has remained, decades after the African countries became independent states despite the fact that the language debate began long before the countries were independent. The question of which language/s was/were to be adopted by the new independent states as language/s of administration and education was one of the major decisions that the new political leadership had to decide on (cf. Alexander 2003). In most

African countries, the former colonial languages i.e. English, French and Portuguese were maintained as the languages to be used for state business and education (Bamgbose 1991). These languages were maintained as official languages in some instances alongside an African indigenous language like Kiswahili in Tanzania (Bamgbose 1991; UNESCO 2010). However, these instances of the maintenance of the former colonial languages and the elevation of an indigenous African language were few and far between. Most countries adopted the former colonial language as official languages with indigenous languages playing inferior roles (UNESCO 2010: 4).

One of the reasons put forward for choosing the former colonial languages instead of local languages has always been the long held idea in some quarters that the European languages are neutral languages, unlike the African languages that carry with them ethnic identity. Bamgbose (1991), taking after Fishman (1968), discusses the language choices made after independence through the dichotomy between nationalism versus nationism and “operational efficiency”, which are factors that played into the language choices made after independence. Ethnic or tribal rivalry (e.g. the Rwandan genocide in 1994 and the 2008 civil war in Kenya) has always been a major issue in Africa and the political leadership of most African countries wanted to avoid the potential divisive potential of choosing one language over another. What they forgot, however, is the reality and fact that no language is neutral. This point is well argued by Njabulo Ndebele while addressing the question of English in South Africa. He argues that “English cannot be considered an innocent language, but a carrier of a range of social perceptions, attitudes and goals” (Ndebele 1987: 7). The point to be made here is that no language, be it an indigenous African language or European language, is innocent and neutral. All languages have one or another negative aspect about them, the former colonial languages might not have ethnic attachments, but they have for a long time been associated with exclusivity and exclusion, with Pennycock (2002) labelling English a ‘colonial accompanist’. Access to these powerful ex-colonial languages is still regulated by access to good schooling with good teachers and resources. Unfortunately, not everybody has the opportunity of studying in such schools. This leaves access to these powerful languages to a select minority of the African population, thereby making language a class barrier and gatekeeper, as those who have access to the language get better socioeconomic opportunities (cf. McLean 1992). Ultimately, it is the harnessing or manipulation of languages for noble or unjust reasons that generate positive or negative attitudes towards languages by mother

tongue speakers or speakers of other languages, e.g. Afrikaans in South Africa and English in most of Africa.

In South Africa, the issue of language in education has for a long time been an area of serious debate. English is the language that has had a historical advantage as medium of instruction. Formal schooling for the most part came about through the efforts of mission schools. The use of English as medium of instruction in mission schools was not the same across the missionary population, because not all missionaries were from England. In some instances, African languages were used as languages of instruction in some schools (Hartshorne 1992; 190). The use of indigenous African languages in education was important and strategic for missionaries, because missionary education and conversion to Christianity were inextricably linked, making the use of indigenous languages in education important as it would be an avenue for spreading the Gospel. For the most part, English dominated schooling, as it was the language that was receiving support from the colonial government, particularly during Milner's Anglicisation period. This was a period where the colonial government was trying the best it could to entrench the dominance of the English language and English culture on both the Afrikaner population and the black African population of South Africa (Kamwangamalu 2004).

After 1910, with the Union of South Africa having been established, Dutch/Afrikaans was developed and elevated into an official language alongside English, but the latter still held the upper hand as it had been used as the main language for education and for business and government (Giliomee 2003; Kamwangamalu 2004). During this period, the Afrikaner population focused on the development of the language than spreading the language to other communities. It is only after the nationalist apartheid government came to power after 1948 that there was a concerted effort into entrenching the language in all controlling domains of society and spreading the language to other communities. The apartheid government required all the white citizens to be bilingual in English and Afrikaans and they sought to spread the influence of Afrikaans to the black community as well. This did not go down well with the black population as they saw Afrikaans as the language of oppression and instead preferred English (Hartshorne 1992). They saw English as their way of protesting against Afrikaans and apartheid (Kamwangamalu 2004; cf. Kamwangamalu 2000). This was one of the reasons that led to the Soweto uprising of 1976, the apartheid government was imposing Afrikaans as the third language that black students had to learn and use as a medium of instruction together with English (Hartshorne 1992; King and van der Berg 1992).

In post-apartheid South Africa, there are 11 official languages, which include nine indigenous African languages in addition to English and Afrikaans. The constitution of the country requires that all of the languages be treated equally with a view to achieving parity of esteem among all official languages (Constitution of South Africa, 1997). The South African Language in Education Policy (1997) states that the choice of the language to be used as a medium of instruction is up to the student or the parents of the student. Though the policy states that students have a choice in the language they would like to be used as a medium of instruction, the reality of the situation is that English and Afrikaans remain the languages that are used in almost all schools. This situation of the use of English and to a lesser extent Afrikaans means that most students in South African education at all levels are taught through a second language.

The use of a second language as a medium of instruction presents problems, especially for students who study in public schools. Such students are disadvantaged by a number of issues, including the legacy of apartheid that saw black schooling being under resourced and undervalued. Even in the post-apartheid era, public schooling still faces challenges, which include the teaching of English and the quality of the teachers who teach the language, together with the resources that are used to teach the language and other subjects. At the same time, African languages, which are spoken as home language by the majority of students, are not given a meaningful role to play in teaching and learning beyond their being taught as subjects. The teaching of English and the quality of the teachers who teach the language are very important aspects, because if students cannot function adequately in English, they are in trouble since the language is the medium through which learning happens. Heugh (2011; cited in Madiba 2012) argues that the South African education system as it stands advantages students who learn English at home language level because by the time second language learners have to switch from home language instruction to English medium instruction they do so having developed a vocabulary of about 500 words, compared to 7000 words acquired by English home language learners at the Grade 4 level. At the same time, arguing that students should start English home language instruction from Grade 1 will also present its own problems especially looking at it from Cummins and Swain's (1986) Threshold Hypothesis (see Chapter Three), which argues that there are threshold levels of literacy that a bilingual person needs to reach in both the L1 and L2 in order to avoid cognitive disadvantages. At that stage, it is too early to expect the learners to have achieved such threshold levels in either language.

The use of English which is a second language for a lot of students as medium of instruction, and the fact that the language is not taught well puts public schools students at a serious disadvantage compared to their private and Ex Model C school counterparts. This creates an educational disparity as students from private and Ex Model C schools perform much better than public school students, due to the fact that the quality of education and English tutoring they receive is more superior. This linguistic disparity affects students right through to university level and beyond, as illustrated by studies conducted by a number of scholars (cf. Paxton 2007, 2009; Bangeni and Kapp 2008; Madiba 2010, 2011). At the higher education level, English Additional Language (EAL) students struggle to perform at the same level with English L1 students. The underperformance of EAL students is directly related to the language issue as demonstrated by the studies cited above, indicating clearly that there is a need to provide support for EAL students mainly through the use of the mother tongue. As it will emerge later on, this study confirms the results of these previous studies.

### **1.3 Multilingualism in higher education**

A multilingual education in South Africa would entail the use of the dominant languages of tuition, which are English and Afrikaans side by side with the previously marginalised African languages (Alexander 2003). Just like the education system in general, as indicated earlier, the South African higher education system is also dominated by the use of English and Afrikaans. Before the transition to a democratic system in South Africa, the government did not see it important to have a multilingual higher education system, because the apartheid government emphasised a bilingual Afrikaans and English higher education system across black and white universities. Since the transition to democracy and the adoption of a new language policy, higher education has been encouraged to embrace, appreciate and harness the value of other official languages within the higher education system and the South African society in general (LPHE 2002; Ndebele Report 2003).

This change to an education system that embraces multilingualism was important because of the potential it has of creating a conducive learning environment for all students. In the pre- and post-1994 era, Languages Other Than English (LOTE) speaking students have always been in the minority numerically, in the universities that were previously white universities. This has meant that black students have felt alienated from the rest of the student body, as

demonstrated in the study conducted by Bangeni and Kapp (2007). The former white universities were created for a homogenous group of students, based on language and race. When access to these institutions was opened up to all; that did not mean the institutions were less hostile to students from other groups besides the white English or Afrikaans community. When universities became heterogeneous, there was a need for language use at universities to respond to this heterogeneity and diversity of languages in order to assist students who speak LOTE to feel less alienated and for their primary languages to be used to support their learning. The main reason for the need for multilingualism in higher education is to ensure that language ceases to act as a barrier to access and success in higher education as it did in the past (LPHE 2002). A number of policies, which will be dealt with in the next chapter, were formulated to ensure a linguistic transformation of the higher education sector.

#### **1.4 RU Cell Biology class and statement of the problem**

Rhodes University is located in Grahamstown in the Eastern Cape province of South Africa. The university turned 110 years old in 2014. It is one of the institutions of higher learning that were previously reserved for white students under the apartheid government system. In terms of language, the university is traditionally an English institution. The university has a student body of about 7000 students, most of whom are drawn from private and Ex Model C schools, but a significant proportion is also drawn from across the African continent and across the world (Badat 2014).

The Cell Biology module is offered in the Biological Sciences and Botany departments of the Faculty of Sciences. The module attracts quite a big number of BSc and BPharm first year students each year. According to the course description, the “course compares cell structure in prokaryotic and eukaryotic cells and examines cellular processes including cell to cell communication, photosynthesis and cell respiration. Cell division and fundamental genetics, including the structure of genetic material and how it controls cellular processes, are also covered” (Rhodes University 2014).

After two decades into democracy, access and success in higher education should be on par as far as previously disadvantaged students are concerned, but the two remain far apart. Although access for LOTE students has improved at Rhodes over the past 20 years, success for LOTE students especially in fields like the sciences remains unsatisfactory. All students

who come into the higher education system should be able to get to the exit point as quickly as possible, doing so having achieved good marks. Based on preliminary data collected in the Cell Biology module, it is clear that there are disparities in the performance and success of LOTE and English speaking students (see Chapter Five). According to the data, English home language speaking students are outperforming their LOTE speaking counterparts. This means that more LOTE speaking students either get low marks or fail the module when compared to English speaking students. The fact that these disparities seem to be along linguistic lines presents an interesting problem, which needs a linguistic intervention. A large number of the LOTE students in the South African higher education system come from schooling backgrounds where English as the medium of instruction was used alongside the students' home language in order to aid their understanding. This is a practice that could prove helpful for LOTE students in the Cell Biology module as the use of their home languages side by side with English can help fast track their understanding of the concepts and thereby improving the LOTE students' marks (cf. Madiba 2010, 2011, 2014).

### **1.5 Objectives of the study**

The main goal of this research is to evaluate the extent to which Rhodes University's Language Policy, which recognises multilingualism influences teaching and learning practices within the university. This will be done in order to develop a model for the implementation of multilingualism at Rhodes. The need for the implementation of multilingualism arises out of the recognition that language can be a barrier to success for some students, and the need to ensure that language does not become a barrier to success. This research also seeks to determine the extent to which the use of the mother tongue to support learning can, or does, indeed facilitate learning. This goal arises out of the widely held idea from scholars that the mother tongue is the best medium through which education can be conducted and when students learn using their mother tongue that can better facilitate the learning process (Obanya 2004; Bamgbose 1991; Alexander 2003; Batibo 2004; Cummins and Swain 1986; Skutnabb-Kangas 1988). In the African context, students who speak LOTE are deprived the opportunity to learn in their mother tongue in favour of learning through English or other European languages like French and Portuguese. This is due to various but not always valid reasons linked with the underdevelopment of African

languages for use in higher levels of education and the strength of the European languages as academic languages.

In South Africa, the mother tongue is used up to Grade three, and thereafter there is a switch to English as the medium of instruction. This early switch has serious consequences for students for whom English is a second language. The switch from first to second language happens just when they are starting to develop their cognitive abilities in their first language. This is problematic when looking at it from Cummins and Swain (1986) 'Threshold Hypothesis' which argues that there are threshold levels that students have to reach in both languages in order to avoid cognitive disadvantages. The mother tongue has a special significance as it is the language that a child starts to speak first as he/she picks it up in the environment where they grow up (Obanya 2004). The use of that language in education is important, as it is the language that children develop cognitive and affective abilities in, as argued by Batibo (2004). Some of the students in the South African education system struggle to cope with English as medium of instruction among other reasons because the L1 development had not reached the required threshold in order to avoid cognitive disadvantage by the time they have to learn through English. Paxton (2007, 2009) clearly demonstrates that this often leaves students struggling at cognitive academic level in both the L1 and the L2 because both languages are often not developed enough. The university students with whom Paxton worked struggled to understand concepts in both the L1 (isiXhosa) and in the L2 (English), because earlier on in the basic education they had switched to English from the mother tongue too soon.

The use of the mother tongue to support learning in higher education has been supported by scholars such as Alexander (2003; Madiba 2011; Batibo 2004). Alexander (2003) developed a concept of Mother Tongue Based Bilingual Education (MTBBE). This is an education system that uses the mother tongue alongside another language, e.g. English, as languages of teaching and learning. For Alexander (2003), MTBBE is a long-term strategy for education in South Africa, but in the interim, he argues for African languages to be used to support learning for their speakers while the process of the intellectualisation of the languages is in progress. The scholars who argue for the use of African languages for learning in higher education argue for this in order to arrest the underperformance of students who speak LOTE in South African higher education institutions.

There are four main objectives that this research seeks to achieve and they are as follows:

The first objective of this study is to investigate further instances of the use of LOTE in learning contexts, and to explore the reasons for the use. The reason why it is important to investigate the use of LOTE in learning contexts emanates from the belief -which is held by those who are opposed to the usage of LOTE is learning- that there is no reason why LOTE should be used in learning because students who speak LOTE do not use LOTE in learning contexts, but instead, prefer to use English. The use of 'further instances' emanates from an Honours research paper (Gambushe 2012), -which forms the basis for this research- which discovered that students who speak LOTE use their primary language in small group learning contexts. The research was conducted in the Extended Studies Unit and Physics and Electronics Department of Rhodes University. What that research did not investigate is the motivation behind the usage of LOTE. The current research seeks to find the motivation behind students' use of LOTE, thereby allowing students the opportunity to inform the research about where and why they use their primary languages in learning.

The second objective of this study is to investigate the language capabilities of the LOTE students in their MT. This will be done in order to evaluate the type of students that are meant to be supported through the use of their L1. As alluded to earlier in this section, most students who speak LOTE in South Africa, with the exception of Afrikaans speakers, switch to use an L2 as medium of instruction at a very early stage of their cognitive development. Some of those students, therefore, would not have developed what Cummins (1986) identifies as Cognitive Academic Language Proficiency (CALP) in their L1. The fact that some students might not have developed CALP in their L1 might cause problems for those students when their L1 is used to support learning in the L2 (English). For example, students who have not developed CALP in isiXhosa might struggle when isiXhosa is used to support learning through English (which is the medium of instruction). This research, therefore, seeks to investigate the language capabilities of LOTE students, particularly those whose mother tongue is isiXhosa, since this research uses isiXhosa, the indigenous language with the highest number of mother tongue speakers within the student body at Rhodes, as the main reference. The language capabilities of the students will be gauged by way of a language competency exercise, which will be discussed in Chapter Three.

The third objective of this study is to examine the perceptions of students, tutors, demonstrators and lecturers about the use of LOTE to support learning. The proponents of the use of LOTE in learning, as mentioned above, argue that the use of LOTE to support learning is one of the ways through which the underperformance of LOTE speaking students can be

curbed. This argument is in most cases based on theories about mother tongue education, but to a large extent there have not been many empirical studies that have practically evaluated the effectiveness of the use of LOTE to support learning in South Africa. This research seeks to understand what the role players in the Cell Biology module think about the use of LOTE to aid learning, and how effective they think such a strategy would be in supporting LOTE students.

The fourth and final objective is the development of template/model for the implementation of multilingualism in teaching and learning practices at Rhodes University. The implementation of multilingualism in higher education has up to this point been a process that has been discussed at a policy and theoretical level. This research seeks to go beyond policy and theory, to a working model through which multilingualism in the Cell Biology module can be implemented and hopefully in other departments throughout the university.

### **1.6 Significance of the study**

As argued earlier, this study is about the implementation of multilingualism at Rhodes University, particularly within the Cell Biology module. This study is relevant because it breaks new ground in trying to deal with issues of access and importantly success in higher education in South Africa. This study breaks new ground in that it goes beyond theorising about issues of language and learning, but presents first hand empirical data from students' lecturers and demonstrators in the Cell Biology module. Though more access has been achieved for black students in higher education over the past 20 years, success still remains a challenge (CHE, 2007). This study, therefore will deal with an important aspect in effective teaching and learning, which is language. The important role played by language in teaching and learning is not always appreciated. Because it is through language that learning happens, if students struggle to understand the language of teaching, there is less chance of effective learning taking place. The findings and recommendations that will be made at the end of this study will go a long way in understanding the language situation of LOTE students in the Cell Biology module and possibly at Rhodes generally. There will also be clarity about the perceptions of all the role players about the use of LOTE to support learning. All of this will feed into the body of knowledge about what is happening at Rhodes University, and this can also be extended to South African higher education institutions, especially in similar contexts

to Rhodes. Hopefully the recommendations of the study will be able to influence policy both at an institutional level at Rhodes and at a national level for higher education in South Africa.

## **1.7 Exposition of chapters**

This thesis consists of the following chapters:

**Chapter One** deals with the background of the study and discusses the context within which the study will be conducted. The problem is also stated in this chapter and the goals of the research are discussed as well as the significance of the study.

**Chapter Two** deals with the legacies of the past. Language planning in South Africa has gone through a number of phases and those are discussed in this chapter. The chapter also deals with the policy documents that provide guidance about how multilingualism should be implemented both from a national and educational perspective.

**Chapter Three** deals with the methodology of the study, the steps taken and the justification for those steps is laid out in this chapter. The design of the study and the reasons why this design was the best option is discussed in this chapter. There are also discussions about the tools used for data collection and the research participants.

**Chapter Four** looks at scholarly literature surrounding issues of language and learning from a cognitive and developmental level. This chapter also looks at language and learning from a higher education perspective by discussing literature that addresses issues of language and learning in the South African higher education context with a particular focus on the use of indigenous African languages to support learning for LOTE students.

**Chapter Five** presents the collected data through a thematic approach. All of the data that was collected is presented according to themes that emerge from the data; those themes that emerge are extracted from each data collection tool and merged under a single theme.

**Chapter Six** follows a similar approach to the one on Chapter Five as the data is analysed and discussed following the same thematic approach. The analysis and discussion involves the infusion of relevant literature to the issues and themes discussed.

**Chapter Seven** outlines the findings of the study and based on the data presented and discussed, recommendations are made in order to deal with the issues that the study found. Further areas for research also explored.

**Chapter Eight** gives a summary of the whole study by briefly reminding the reader of what the study is about and what each chapter discussed and it concludes the study.

## **1.8 Conclusion**

This chapter gave the background of the study by touching on some of the historical and present issues about language and education in South Africa. There was also a discussion about multilingualism in higher education, while also discussing the Rhodes University Cell Biology context and statement of the problem. The goals of the research were also discussed, as they are the drivers of this research project, it is the research goals that determine which questions to ask and what type of data to collect. The relevance of the study in overall knowledge production and the possible impact this study might have on policies both at Rhodes and in South African higher education in general was discussed. The last section dealt with the exposition of the chapter and what each chapter addresses. The following chapter deals with the linguistic legacies of the past and the relevant language policy documents, especially language in education documents that have emerged over the past 20 years.

## CHAPTER TWO

### HISTORICAL AND LEGISLATIVE FRAMEWORK

#### 2.1 Introduction

The purpose of this chapter is to trace language developments and the relationship between English, Afrikaans and African languages in South Africa. The focus on African languages will not be on all the African languages in South Africa, but it will be on isiXhosa, which is the focus of this study. This chapter will trace how Dutch, was introduced to South Africa through the ‘colonisation’ of the Cape by the Dutch East Indian Company and how Afrikaans later developed from Dutch. The introduction of English through British colonisation of the Cape Colony from the Dutch, ultimately leading to the colonisation of the rest of South Africa leading to the formation of the Union of South Africa will be discussed. This chapter will also discuss the role that missionaries played in the development of isiXhosa and how the language was developed in order to be used for education. Language policy developments under apartheid will also be discussed, before an overview of language policies that were adopted in post-apartheid South Africa, especially for education and higher education.

#### 2.2 Introduction of Dutch/Afrikaans and English in South Africa

It is important to discuss how Dutch/Afrikaans and English were introduced to South Africa because these languages from the time of their introduction to South Africa to the current moment have played a major role in the history of South African language planning and policy. These languages played a major role during the colonial period, the apartheid period and they still play a role in current South African language planning. The important question becomes how did these European languages or languages with European origin (in the case of Afrikaans) manage to have a major influence in South African language planning? The power of both these language is closely associated with government power and influence as both languages thrived in South Africa thanks to the support they received from the colonial and apartheid governments. This is in line with Mclean (1992: 152) argument that language policy is invariably a part of ideology, as some languages are promoted over other. That is very clear to see in the South African context with the promotion of English and Afrikaans

over the African languages in order to push certain ideological agendas. The agendas pushed by both the colonial and apartheid governments were of domination of the majority by the minority and limiting opportunities for the majority in the economy and otherwise.

### ***2.2.1 The history of Afrikaans***

The story of Afrikaans starts in 1653 when settlers with the Dutch East Indian Company set up a refreshment station for sailors who were sailing in the Europe Asia route. The motivation behind setting up a refreshment station was because the journeys between Asia and Europe were long and posed challenges for the sailors, so they needed a place where they could refresh their food and water reserves in order to continue with their journey (Mashele and Qobo 2014) The establishment of this refreshment station led to the Cape being governed by the Dutch East Indian Company between the year of their arrival 1662 and 1795 when the Cape colony was briefly colonised by the British. The British relinquished control of the Cape Colony to later recapture it in 1806 from the Dutch. It was at this point that English was established as the language of administration in the Cape Colony (Giliomee 2003). Around the 1830s thousands of Dutch or Boer people moved out of the Cape Colony to establish their own Boer Republics. This is how the Orange Free State and Transvaal were established in the 1850s (Giliomee 2003; Mashele and Qobo 2014). During this period there were few educated Afrikaners in the Cape colony and in the Boer republics, which meant that very few people could speak or write proper Dutch. The majority spoke “a vernacular known as Afrikaans” (Giliomee 2003: 4).

There are competing arguments about how Afrikaans developed as a language. There are those who argue that it developed out of the interaction of various Germanic languages, whereas others argue that it developed from various Dutch dialects and other languages in the Cape Colony. The main proponents of the first argument are, among others, Grobler et al (1990) who argue that Afrikaans developed on the basis of the interaction of various 17<sup>th</sup> and 18<sup>th</sup> century languages that interacted in the Cape Colony. This argument suggests that Afrikaans came about as a result of the interaction of Germanic languages without any influence from the African languages of the Cape and of the Malay slaves. The opposite argument, however, as argued by Combrink (1978), is that Afrikaans developed out of among other things, various Dutch dialects, which gave Afrikaans the grammatical structures it has. Combrink also argues that Afrikaans also benefited from various other influences like the

Khoi languages, Bantu languages, Malay, French Portuguese and other languages it came into contact with.

The development of Afrikaans into a fully-fledged language did not happen until after the formation of the Union of South Africa after 1910. That happened after a long struggle for the recognition of Afrikaans as a language that should be taken seriously by the colonial government in order for it to be used in spheres of the lives of the Afrikaner people. The Anglo-Boer War (1899-1902) served as one of the unifying factors that brought the Afrikaner together in an effort to resist British imperialism, which was symbolised by the English language (Kamwangamalu 2004). The different Afrikaner groups came under one banner and Afrikaans was what held them together and it became “the symbol of a modernised Afrikaner identity” in the face of the aggression of British Imperialism (Giliomee 2003: 6). For the Afrikaners, the recognition of Afrikaans as a fully-fledged language went beyond language being a medium for communication. They saw language as a means for access to economic development of their community. When confronted with poverty from the time of the Anglo-Boer war, they saw the elevation of Afrikaans as a ‘bread and butter issue’, with the recognition of Afrikaans they were going to be able to have their children gaining literacy through a language they understood better than any other (Giliomee 2003: 14). That would in turn give the Afrikaner community the necessary skills to get jobs in the different industries that at the time were mostly dominated by the English speaking community.

The breakthrough for Afrikaans came through the efforts of, among others, an organisation called the Afrikaans Language Movement, which had been established in 1877 (Webb & Kriel 2000). The Language Movement became the vehicle through which standard Afrikaans orthography was devised and published in 1917 and by 1925; Afrikaans was put on par with Dutch as an official language (Ponelis 1993: 54). From that period there was a major boost for Afrikaans when the National Party came into power. Resources were channelled into Afrikaans development and the knowledge of Afrikaans was essential for securing jobs in the public sector (Giliomee 2003: 15).

### ***2.2.2 The history of English in South Africa***

The story of English in South Africa dates back to the colonisation of the Cape Colony by the British in 1795 when they took control of the colony from the Dutch who, as explained

earlier, had occupied it since 1652. The British occupied the Cape mainly as a means to counter the influence of the French in the East, which they planned to do by closing off the Cape sea route that led to the East (Lass 1987: 301). The Cape was given back to the Dutch in 1802, only to be recaptured by the British in 1806 when war broke out with France. The Cape was later given to Britain at the Congress of Viena (1814) after the fall of Napoleon. (Lass 1987) From that point, until 1910, when the Union of South Africa was established, the Cape Colony was a British Colony. It is at that point when the British took the creation of a British colony in the Cape seriously while driving for the 'Anglicisation' of the colony and its inhabitants, which meant that the Dutch were also meant to be Anglicised assimilated into the dominant English culture.

The Anglicisation plan was to be done through various ways, with two of them being particularly important for the purposes of this section. Those are language and education. According to Davenport (1991: 40), the Anglicisation policy sought replace the Dutch language by English in all spheres of life in the colony and all public sector posts were reserved for the English speaking population. The linking of posts with language was a masterstroke because it linked the English language with economic opportunities much like what is currently happening in South Africa and most of the world. The foundation for English hegemony in social mobility and economic benefit was laid during this period of Anglicisation and has remained intact ever since.

The second important tool that was used was education through the medium of English. Dutch children were not given the opportunity to learn in their mother tongue as government funded schools were ordered to teach only in English (Giliomee 2003; Kamwangamalu 2004; Lass; 1987). Depriving children the opportunity to learn in their mother tongue and teaching them a curriculum that emphasised British culture ensured that children were made to believe that all that is good is British/English. In 1822 a proclamation was issued by Lord Somerset requiring that English be the language of documentation for official documents from 1825 and in all courts of law by 1828 in courts that were presided on by Englishmen (Kamwangamalu 2004: 202).

This blatant policy of Anglicisation lasted until the formation of the Union of South where, both Dutch and English were made official languages of the Union, but even though both languages were given equal status, English still had an advantage over Dutch, isiXhosa and

all the African languages which at this point were at their infancy developmentally. This is clearly spelled out by a Natal politician Nichols (1961, cited in Giliomee 2004) who wrote:

We had gone about talking of a South African nation which would consist of English and Dutch, but at the back of our minds we had supposed that they would talk English. We aimed at Anglicization.

The English speaking population in the Union sought to keep the status quo for economic and political reasons. That status quo still remains, as English continues to dominate all the controlling domains of South African society. That did not happen by chance, this was a project that was implemented from the nineteenth century. Within the black African population, English was the beneficiary of the apartheid policies towards the black population (Hartshorne 1992). Within the context of a South Africa where English and Afrikaans were the official languages, with African languages not recognised as official languages worthy to be used for high social functions, the majority of the population preferred to learn English instead of Afrikaans. There was, and still is, a negative association with Afrikaans and apartheid among the black population because Afrikaans was seen as the language of the oppressor (Kamwangamalu 2004). This made people prefer to be taught through English than Afrikaans or their particular African language. African languages were always at a disadvantage as they were marginalised throughout the different significant periods of development in South Africa. This marginalisation meant that the speakers of these languages did not see any value in being taught in them because there were no economic opportunities linked to knowing or being taught in their mother tongue. The rise of the United States of America as a super power after the collapse of the colonial system further strengthened the position of English in South Africa and the whole world (cf. Crystal 2003).

### **2.3 IsiXhosa and education during the preliterate period**

Attention now shifts from English and Afrikaans to isiXhosa, which is the language that is the primary subject of this research. There is a belief from some that education only arrived in Xhosaland with the arrival of the missionaries and later on with the colonial government. The truth is that there had always been education among the amaXhosa (people who speak isiXhosa), but the type of education that was offered does not fit into the European

understanding of education and is, therefore, dismissed as 'indigenous education'. It is interesting how knowledge that comes from Africa is termed 'indigenous knowledge', whereas knowledge that comes from Europe or America is considered to be knowledge (Badat, 2013, interview with *Higher Education Today*). This shows the extent to which African knowledge is looked down upon by those who consider themselves to be superior to others.

Among the amaXhosa, orality preceded writing. This means that the spoken word was used from the very beginning and it was through the spoken word that knowledge was passed from one generation to the next. This knowledge would be about a variety of subjects that affected the lives of the people from the history of the people to the environment and many other areas. In this context, isiXhosa was used in high function domains such as courts where legal issues were dealt with, as it was also used for communication in diplomatic situations with other tribes (Makalima 1981). This was possible because the people understood their language very well and they were able to use it as a resource for their daily lives.

During the preliterate period and through oral education, children were skilfully taught things that matter most in the community in order to transfer important skills, norms and values (Jordan 1976). There are a variety of forms of oral education through which amaXhosa conducted education for the young people, but I will only focus on two of them. These started from when the child was a baby and there was a gradual process of teaching them until they were adults. The first of these were the nursery rhymes, which were used as a way of introducing the child to the language that is spoken in the family and in the community (Makalima 1981). Nursery rhymes gave children a chance to interact with the language in an entertaining manner and in a way that was not too cognitively demanding on their young minds. It is worth noting that nursery rhymes were and are still not only a Xhosa thing, they are a universal way of introducing and teaching children their mother tongue and this was no different with amaXhosa during the preliterate stage.

The second form of oral education that was used were folk tales. The mental picture of a grandmother sitting around the fireplace with her grandchildren telling them a story is a well-known picture that is associated with folktales. According to Mtuzze (2004) most people hold the view that the main reason why folktales were done was solely for entertainment, he argues that indeed they were told for entertainment, but entertainment was at the bottom of the reasons why they were told. An education that is conducted in an entertaining and

exciting manner is more likely to be easily grasped by those that are being instructed and it has a bigger chance of sticking in their minds. As previously stated that folktales were used to transfer knowledge from one generation to the next, they were used to tell children about important events in the life of the nation like wars and droughts. Children were also taught about the value of courage and how valuable courageous people are to the survival of a nation. According to Makalima (1981: 18) folk tales were:

...part of a process of orientation for very young children which fitted very well with the modern practice of not insisting on detailed factual knowledge in the lower standards of formal schooling.

Folktales allowed children to think out of the box and imagine new things and new worlds where they had never been before, thereby encouraging open mindedness from a very young age. Children are today encouraged to read books because through reading books they are hoped to be able to develop imagination and imaginative thinking, which would at a later stage develop into critical thinking. It is interesting to note that the advent of writing and reading among black African societies 'coincided' with the decline of the telling of folktales, but at the same time did not lead to the cultivation of a culture of reading instead, not to mention the challenge of the paucity of reading materials in African languages like isiXhosa.

#### **2.4 The development of isiXhosa for use in formal education**

Before discussing the use of isiXhosa in formal education, it is important to start at the point when isiXhosa was reduced to writing. Though the Xhosa people had spoken isiXhosa for centuries, it had never been reduced to writing until about the 17<sup>th</sup> century with a few writings from travellers and some missionaries. Doke (1959) mentions a number of people who made some contributions like Spaarman and Van Der Kemp who wrote on separate occasions the "Specimen of the Caffre Language" (1777). Doke also mentions Heinrich Lichtenstein study called "Remarks upon the Language of the Koosas" 1833. We can never talk about isiXhosa being reduced to writing without talking about the role of the missionaries in the development of the language. There were a number of missionary societies that were active in the Eastern Cape in the nineteenth century, among them, the Glasgow, London and Methodist Missionary Societies, which played the biggest role in the development of isiXhosa.

What is worth noting regarding the role of missionaries in the development of isiXhosa in education is the fact that as much isiXhosa owes so much of its development for education on missionaries, they were learning the language to serve their own purposes. Missionaries learnt isiXhosa for the sole purpose of using the language to reach out to preach to amaXhosa. Education was seen as a perfect tool for conversion of amaXhosa into the Christian faith, thus Makalima (1981: 39) argues that:

[t]his came about because from the very outset it was realised that the conversion of the unenlightened to Christianity would have to go hand in hand with instruction in reading and writing. Thus, education was from the very beginning the maid servant of evangelism.

They learnt the language in order to communicate with amaXhosa and they used education as a tool for enticing people into Christianity, and the language was for a very long time written in such a way that was not for the benefit of mother tongue speakers of the isiXhosa (cf. Prah 2009). This is clear by looking at the dictionaries that were produced earlier on for isiXhosa; these were mostly unidirectional dictionaries that explained isiXhosa by way of English and this was meant to help second language speakers of isiXhosa, not first language speakers. It is only towards the end of the 20<sup>th</sup> century that isiXhosa dictionaries for mother tongue speakers were introduced.

There are a few missionaries that are worth mentioning who played a role in the reduction of isiXhosa into writing. Among the missionaries that played a role in the development of isiXhosa we can mention the contribution of J W Appleyard who was a Wesleyan missionary who came to South Africa in 1840 and stayed until he died in 1874 (Miti, 2009). Appleyard is credited with the publication of an isiXhosa grammar in 1850 entitled “*The Kaffir Language: Comprising a Sketch of its History Remarks upon its nature and a Grammar*”. He also produced a complete translation of the Bible into isiXhosa in 1859.

Willem Boyce is another missionary worth mentioning because he was the first person to write a comprehensive grammar of any Bantu language in South Africa and this grammar was titled “*The Grammar of the Kaffir language*”. Boyce also divided isiXhosa nouns into twelve classes; he also made other contributions to languages like the Namaqua, Korana and Bushmen languages (Miti 2009).

John Bennie is considered by some to be the father of isiXhosa literature because he is the one missionary that is considered to have played the biggest role in the development of isiXhosa. Bennie was a Scottish missionary with the Glasgow Missionary Society. He came to South Africa in 1821. After arriving in South Africa, Bennie managed to learn isiXhosa and was thus able to study the language; he is “considered one of the earliest serious students of isiXhosa” (Doke 1959, cited in Miti 2009). One of his earliest products in his study of isiXhosa was an isiXhosa grammar titled “*A Systematic Vocabulary of the Kafrarian Language*” which was published in 1826. However, Bennie’s greatest achievement was the publication of a reading sheet, which was the first isiXhosa publication in recorded history. This reading sheet was published in 1823; it had twenty five letters and therefore, based on the English alphabet. The reading sheet was titled *In komo zon ke ze zi ka-Tixo* (current orthography: ‘*Iinkomo zonke zezikaThixo*’) – tr. ‘All cattle come from God’. The sheet was about cattle and how cattle belong to God and, therefore, should be taken care of, and God should be honoured for this gift of cattle. It is believed that cattle were chosen as the subject of this sheet because of their importance in Xhosa society, as a measure of a person’s standing in the community and as a sign of wealth. This sheet was not without problems. One of the things that stand out is how it was written in a disjunctive manner, which is not unexpected since the author’s language (English) is written disjunctively. It was through Bennie’s alphabet and with the help of Rev John Ross who arrived from Scotland with a small printing press; the first isiXhosa written product was printed (Makalima 1981).



bum bi  
pam bi  
dun ga  
tën da  
gom so  
kam be  
kan ti  
vim ba  
fun da  
zem ka  
sën ga  
ham ba  
lin da  
nam pa  
nan ga  
wam bi  
yim bi  
can da  
qon da  
tëm ba  
jin ga  
kan da  
kon xa  
tam ba  
yon ke

4.

**IN KO MO** zon ke ze zi ka-Ti-xo: un gum ni ni zo yë na. Kun-ga bi ko nüm tu o zi ci ta yo. I pi-we gu ye i mi fi si, ne mi ti yon-ke zi ya pi la ga yo; a pi we na-man zi e zi wa së la yo. Yim vu-me yom ni ni zo u ku ba zi kon-ze ti na 'ban tu in ko mo; zi ya-si kon za go ko. Za pi wa in ko-mo ku-No wa, na ku ti gu-Ti xo um ni ni zo, u ku ze si zi xë le, si-pi le ga zo; zi xë li we go ko. Zi-xë li we in ko mo, go ku ba e vu-me le ne na zo um ni ni zo; go ko si na so isi xa so e si ku lu esi pi-la ga so. Zi ya ni ka i ma zi za-ko we tu lo ma si e si wa së la yo a da li we yo gu-Ti xo. Si nen gu-bo, nem va ba, ne zin to e zi nin-zi ge zi kum ba zen ko mo ze tu. Zi da li we in to e zi nin zi ga be-lun gu ga ma tam bo en ko mo, nem pon do za zo. En zi we lo-ma ba la on ke e zi na wo in ko mo gu-Ti xo um ni ni zo.

**J. B.**

Figure 1: First printed reading material in isiXhosa by John Bennie in 1823: 'In komo zon ke ze zi ka-Tixo.' (tr. All cattle belong to God).

Despite all these early achievements of isiXhosa as a language that can be used for education, the language was overlooked for most of the nineteenth century as a language that could be taught and examined at schools. It was only in 1899 that isiXhosa was offered as an examinable school subject in the Cape Colony. One of the reasons why isiXhosa was overlooked was because the schooling system was of a level higher than primary schooling,

which is where at the time there were few to no black students at secondary level, and most schools were meant for white students, which made isiXhosa in the syllabus less important. Administrators in the colonial government also had negative attitudes towards isiXhosa as a language that should be given any status in education and they favoured English instead of any of the local languages (Makalima 1981). Black parents also have since these early days of education in the black community had negative attitudes towards mother tongue instruction in favour of education through English (cf. Barkhuizen 1998). This largely had to do with the prestige that was attached to English and the power of the system that brought English to South Africa, which is the powerful colonial government. This is a legacy that still exists even today, black parents would prefer if their children did not know their mother tongue than not know English.

## **2.5 The 1910 to 1948 period language developments during that period**

During the Union negotiations, language was among the biggest issues for discussion. Up to that point English was the language playing the biggest role in the controlling domains of South African society since the two Boer Republics were defeated during the Anglo Boer War (1899-1902) (Giliomee 2004; Ponelis 1993). With the defeat of the two republics the policy of Anglicization was carried out with Dutch being held back in favour of English towards the unification. The Cape Colony administration was looking to unify with English as the sole official language (Giliomee 2004: 6). The Union negotiations ended with both English and Afrikaans becoming official languages of the Union according to Article 137 of the Union Constitution and both languages were to be treated equally, enjoying equal rights and privileges (Hartshorne 1992: 191). The language decision though it was a decision that was taken by the two white groups had serious implications for black education in the long run.

Under the Union government, English still dominated controlling domains including black education, it was around the 1930's that the Afrikaner started to express concern about the position of Afrikaans in black education. Before this concern about the position of Afrikaans, the debate had always been around the relationship between African languages and English as it was in the nineteenth century. An Interdepartmental Committee on Native Affairs chaired by W T Welsh established to investigate black education made a number of discoveries. The committee found that in the Cape and in Natal, English was the medium of

instruction from the very beginning of a child's education life and remained so throughout the child's education (Makalima 1981; Hartshorne 1992). The teaching of English was seen as very important by all who were concerned in black education. Except for Natal, there was very little to no effort put into the teaching of African languages in the schooling system. In Natal the teaching of isiZulu had started in the nineteenth century already and had continued. The committee drew three conclusions from the dominance of English, firstly, that Mission schools that engaged in the education of black pupils did so through English. Secondly, that the version of Dutch that was taught in white schools in the two republics was not known by a huge majority of the population. Thirdly, that the use of Afrikaans as a medium of instruction was only allowed several years after the Union came into being. The position of English had been further strengthened by the Anglicization policies of the colonial government, which made English a prerequisite for state funded education (Report U.G: 1959).

Post Union, there was a serious push for mother tongue education to be taken seriously, with some in the Afrikaner community believing that the mother tongue is the best vehicle for education, especially for the early years of a child's education. In Natal, isiZulu had been introduced in 1855 while in the Cape Colony and in the two republics African languages were not given status in education. It was only after two reports were conducted, one in 1909 and another in 1922 that African languages were made compulsory in all black primary schools (Hartshorne 1992). In Transvaal and the Free State African languages were made compulsory in 1915. By 1935 when the Welsh committee started its investigation it found out that in all provinces an African language was a compulsory subject throughout primary school, but was not a prerequisite at high school level. With regards to medium of instruction, isiZulu was used up to the sixth year of education in Natal, for the first four years in the Cape and Free State. English was in most cases the medium of instruction after these first six and four years of mother tongue instruction. The committee recommended that the mother tongue should be used as a medium at least for the first four years.

Towards the 1940's there was a serious push from Afrikaner leaders for the recognition and affording of status of Afrikaans in the education of black students. The argument put forward for this view was that both official languages should be given equal treatment as is was stated in the constitution of the Union. There was a push for mother tongue education for all students as a precursor for the gradual replacement of English in South Africa with Afrikaans in black education and to make it the language used in controlling domains. According to Nel

(1942) Afrikaans as a language that developed in Africa was the best language to use for educational and economic reasons as it was more relevant culturally and comically for blacks. It is these ideas that lead to Bantu Education, which is briefly discussed in the next section.

## **2.6 The 1948 to 1976 period: Bantu Education**

The coming into power of the National Party in 1948 started the official policy of segregation in South Africa known as apartheid. Apartheid was based on the ideas of superiority of the Afrikaners over the ‘natives’ and how their worldviews “must be grounded in the life and worldview of the whites” (Rose 1973 as quoted in Hartshorne 1992). It was also about separate development in all sectors of South African society and education was one of those areas where there would to be separation and differentiation of standards. The apartheid government based their new education policy on Christian National Education principles and in 1953 the Bantu Education Act was signed into law. One of the principles of Bantu Education was that the mother tongue instruction should be the basis for education and should therefore be extended from four years to eight years (Nkabinde 1997; Fleisch 2002). The two official languages, English and Afrikaans, were to be taught to all black students in an effort to curb the dominance of English in black schooling and aim for its possible replacement with Afrikaans.

The Eiselen Commission, which was set up to investigate “Native Education” education made a number of recommendations that led to the Bantu Education Act, including the following which are relevant to the current study (As quoted in Hartshorne 1992; 196):

- All education should be through the medium of the mother tongue for the first four years, and the principle should be progressively extended year by year to all eight years of the primary school.
- Terminology committees should be set up to produce manuals for the teachers, after which mother tongue instruction should be introduced to gradually in the secondary level.
- The first official language (the language which is most generally used in the neighbourhood of the school) should be introduced in the second year of schooling as a subject, and the second official language no later than the fourth year.

As educationally sound as the idea of mother tongue education is, there was a general mistrust of the use of the mother tongue by the black population. Mother tongue education was rejected because some people believed that the use of African languages in education meant the lowering of the standard of education. This was due to the high regard black parents had for English as the language that allowed social mobility. They also felt that this was the apartheid government's ploy to delay the introduction of English to black children thereby deprive them of the opportunities that come with competence in English. There was a great deal of opposition to Bantu Education from black teachers and other organizations like the SA Institute of Race Relations (Mahlalela-Thusi & Heugh 2002; Hartshorne 1992). It is certainly not surprising that there was a mistrust of Bantu Education, because the system that was bringing this type of education was a system that was not concerned about what was best for blacks, but rather about its own political motives.

What cannot be denied, however, about the Bantu Education period is the work that was done to develop African languages during this period. Prior to this, as discussed earlier, isiXhosa had developed up to a certain level but it was during Bantu Education that the process of the development of the language was accelerated. The formation of terminology committees as suggested by the Eiselen Commission meant that there was a plan to develop terminology for all the subjects that were offered at primary schooling level. Terminology for the sciences was developed during this period and textbooks were published to satisfy the need for the gradual introduction of mother tongue education. This is an interesting fact when compared to the current state of affairs, which will be discussed in depth later, where there is an argument that there is no terminology for African languages and that it is expensive to develop terminology and publish books for all African languages. Mahlalela-Thusi and Heugh (2002) observe that under the apartheid system black education was seriously under budgeted for, but they managed to develop African languages with that little budget. Under the current dispensation and with the amount of money budgeted for education, it follows that it should be much easier to develop isiXhosa and other African languages for use in education.

Though the government of the time had its own motives for extending the use of African languages in primary education, it cannot be denied that isiXhosa benefited in the developments that took place during this time.

## **2.7 The 1976 to 1994 period**

Towards the 1970's, the apartheid government hardened its stance on the 50/50 policy as far as the official languages are concerned. There was a push for the equal use of both English and Afrikaans in black schooling when the mother tongue period ended after the eighth year. This meant that black students had to learn three languages, their mother tongue, English and Afrikaans (King and van der Berg 1992). This was bound to be problematic because most black students and parents preferred English as the medium of instruction, and most teachers were competent in their mother tongue and in English, which meant that there were going to be fewer teachers able to teach in Afrikaans and students were going to struggle. According to Hartshorne (1992) there were efforts by teacher organisations, school governing bodies, parents and students asking the government to soften its stance and adopt a more flexible approach to the issue of language of instruction. These efforts fell on deaf ears, as the government was more concerned about strengthening the position of Afrikaans against English in black schooling (Ndlovu 2006).

Students were feeling the pressure brought upon them by the language requirement and it was becoming unbearable to learn in both English and Afrikaans at the same time. In Soweto, students from Orlando West decided to stay away from school as an effort to express their displeasure at the government's policy and this was the start of a major strike action. Within a few days, what had started as a stay away had become a full-blown strike, which led to the deaths of over 176 students within a week (Hartshorne 1992: 203). With the country plunged into crisis, the government was still resisting the demands of the black students, to be allowed to choose which language they preferred as medium. Thanks to pressure on the government from various areas, after a month, the government allowed schools to choose the language they preferred as a medium of instruction from Standard five and only that language would be the medium. In 1978 a different bill was enacted which replaced the Bantu Education Act of 1953.

Having won the battle against dual medium education, there were efforts from teacher organisation to limit the use of the mother tongue to only the first three years. The argument put forward was that it did not make sense for students to be taught in the mother tongue and then transit to an official language (English) just before writing an external examination. It would seem that this position also had to do with the negative attitude towards mother tongue

education from the time of Bantu Education. Black teachers and parents saw no value in their children being taught in their mother tongue and they sought to limit mother tongue instruction so that English can take precedence in the education of the black child as it was before Bantu Education. This stance from teachers and parents further strengthened the position of English in the education of the black African child at the expense of the child's mother tongue (Kamwangamalu 2000).

## **2.8 The post-apartheid South African language policy as stipulated in the Constitution**

Negotiations between the apartheid government and the anti-apartheid movements, particularly the ANC, had secretly started in the late 80s, but it was after the release of Nelson Mandela from prison that the negotiations officially got underway. It took four years for the negotiations for a new South Africa to emerge and in 1994 a democratically elected government was elected. During the lead up to the elections, the language question is one of the issues were on then negotiation table. Since 1910 English and Afrikaans were the recognised official languages of South Africa while African languages only gained status in the Bantustans. Both the 1993 Interim Constitution (section 3) and the 1996 final Constitution (section 6) made language provisions, which recognised 11 official languages (Strydom 2003). Nine African languages were elevated to official status together with English and Afrikaans, which were hitherto the only official languages.

The Constitution states that:

Recognising the historically diminished use and status of the indigenous languages of our people, the state must take practical and positive measures to elevate the status and advance the use of these languages (Constitution of South Africa 1996: 4).

This is a very important statement, which follows the identification of the official languages of South Africa because it tasks the state with the responsibility of elevating the status and advancement of the use of African languages. In order for any language to be truly an official language, it is important for that language to be used in the controlling domain of language. According to Sibayan (1999), the controlling domains of language are those domains that determine which language to learn and to aspire to, these domains are, among others, government administration, commerce and business science and technology and education at

all levels. At the current moment, African languages have yet to be used in controlling domains in South African society. English and, to a lesser extent, Afrikaans still dominates the controlling domains. Even though African languages are also official languages, they have yet to be used in the controlling domains that would render them truly official and functional languages. There are a number of reasons as to why that has not happened yet. As far as their use in government administration is concerned, the Constitution has what can be referred to as “escape clauses”. It states that national and provincial governments may use any of the official languages while taking into account “usage, practicality, (and) expense” (Constitution of South Africa 1996: 4). These clauses have made it easy for government to say it is too expensive to implement multilingualism and that it is much easier to use English instead. In 2012, the Use of Official Languages Act (2012) was passed by Parliament, setting out guidelines for the drafting of language policies by all national government departments and other public institutions in order to regulate the use of official languages. This is a step in the right direction, but we are yet to see if this will yield positive results.

The use of a language in education is a very important aspect of language elevation. Presently, African languages are used for the first three years of primary education for pupils whose mother tongue is an African language. There is at the same time a growing trend of parents preferring their children to be taught through English from the very beginning. This is because parents feel that it is wiser to have their children competent in English as soon as possible because their future prospects will be better if they can speak English. Those who do not have access to high level English teaching are severely disadvantaged as English acts as a gatekeeper to success. This is the reason why South Africa’s language policy must regulate language use so that language does not act as a barrier to access to opportunities.

## **2.9 LANGTAG and the PanSALB**

### **2.9.1 LANGTAG**

The Language Plan Task Group was an advisory committee that was appointed by the Minister of the Department of Arts and Culture in 1995 to develop a coherent National language plan for South Africa (Ngubane 1995). In the press statement announcing the appointment of the committee, Minister Ngubane acknowledged that multilingualism was a reality in South Africa, but at the same time it was invisible in the public service and that was

one of the issues that the group would have to advise on. The report of the committee made a number of recommendations along eight key priority areas:

- Language in Education
- Language in the public sector
- Language Equity
- Equitable and Widespread Language Services
- Development of (South) African Languages
- Literacy
- Heritage Languages, Sign Language and AAC
- Language as an Economic Resource

One of the short-term recommendations was the promotion of the use of Languages Other Than English (or Afrikaans) in high function domains like universities, where these languages were never used. In order for that to happen, the report recommends that the African languages should be developed and expanded so that they can be able to cope with the demands that will be put on them by these new domains they will be used in. The report also makes a very important recommendation, that a time frame for the development and use of previously marginalized languages in high function domains. This is a very important recommendation because the process of the development of African languages for use in high function domains, after 20 years into democracy still does not have a time frame. Indeed there are efforts to develop the languages, but there are no short term and long term goals like developing scientific terminology for schools in the next five years in order to gradually implement bilingual education, with a long term plan of incrementally implementing bilingual education up to university level. The development efforts underway seem to suggest development for its sake, with very little implementation. Some of these issues will be dealt with in more detail in the following sections about Language Policy for Higher Education and the Report on the Development of African Languages as Medium of Instruction in SA Higher Education Institutions.

## 2.9.2 PanSALB

The Pan South African Languages Board is a statutory body that was brought into existence by an act of Parliament (Act 59 of 1995). The PanSALB was established in order to:

... provide for the recognition, implementation and furtherance of multilingualism in the Republic of South Africa and the development of previously marginalized languages (PanSALB Act 1995).

With multilingualism having been recognised as a the best way forward for post-apartheid South Africa, PanSALB was established so that it can be a body that is responsible for seeing to it that multilingualism is implemented and that the previously marginalized languages are developed. The board was meant to ensure that conditions are created for the development and equal treatment of all South African official languages and the development of those that were yet to be developed. The board was also tasked with the responsibility of protecting all South African languages including those that are not official languages. In order to protect its independence, the PanSALB reports directly to Parliament instead of the Department of Arts and Culture, which is the department that has the responsibility of dealing with language issues.

According to Mbude-Shale (2013) the effectiveness of PanSALB in its role as a watchdog has been curtailed by inadequate funding, it does not have enough funding to allow it to do as much as it is supposed to. To this one could ask whether the duties of PanSALB would not be better executed if PanSALB was part of the Department of Arts and Culture (DAC) instead of being a standalone body that reports to Parliament and is funded through Parliament. This way, the work that is done by the DAC and PanSALB can be combined under one vision and funding. Another option could be to take all of the language duties from the DAC and give them over to PanSALB and then increase PanSALB's funding, as it will be responsible for the whole language project. The DAC has a terminology section within the National Language Services and at the same time PanSALB has a terminology and lexicography section. In light of this, the important question is whether or not these two institutions are not duplicating efforts, especially with terminology? These together with issues of proper governance of the Board are some of the issues that need to be looked into to ensure that PanSALB works, so that it can play the role it was meant to play, i.e. to protect and encourage multilingualism.

## **2.10 South African Language in Education Policy (1997)**

Though this study is not about basic education, it is important to discuss the policy situation in basic education because it has a direct impact on higher education, because the same students who come through the basic education system are absorbed by the higher education system after matriculation. The Language in Education Policy (LiEP) came into effect in July 1997. In its preamble, the policy states that the Language in Education Policy is part of the broader language planning of South Africa, and the policy is continuously being developed in line with the broader language planning of the country. The policy has six key principles and they are as follows

1. In terms of the new Constitution of the Republic of South Africa, the government, and thus the Department of Education, recognises that our cultural diversity is a valuable national asset and hence is tasked, amongst other things, to promote multilingualism, the development of the official languages, and respect for all languages used in the country, including South African Sign Language and the languages referred to in the South African Constitution.
2. The inherited language-in-education policy in South Africa has been fraught with tensions, contradictions and sensitivities, and underpinned by racial and linguistic discrimination. A number of these discriminatory policies have affected either the access of the learners to the education system or their success within it.
3. The new language in education policy is conceived of as an integral and necessary aspect of the new government's strategy of building a non-racial nation in South Africa. It is meant to facilitate communication across the barriers of colour, language and region, while at the same time creating an environment in which respect for languages other than one's own would be encouraged.
4. This approach is in line with the fact that both societal and individual multilingualism are the global norm today, especially on the African continent. As such, it assumes that the learning of more than one language should be general practice and principle in our society. That is to say, being multilingual should be a defining characteristic of being South African.

It is constructed also to counter any particularistic ethnic chauvinism or separatism through mutual understanding.

5. A wide spectrum of opinions exists as to the locally viable approaches towards multilingual education, ranging from arguments in favour of the cognitive benefits and cost-effectiveness of teaching through one medium (home language) and learning additional language(s) as subjects, to those drawing on comparative international experience demonstrating that, under appropriate conditions, most learners benefit cognitively and emotionally from the type of structured bilingual education found in dual-medium (also known as two way immersion) programmes. Whichever route is followed, the underlying principle is to maintain home language(s) while providing access to and the effective acquisition of additional language(s). Hence, the Department's position that an additive approach to bilingualism is to be seen as the normal orientation of our language-in-education policy. With regard to the delivery system, policy will progressively be guided by the results of comparative research, both locally and internationally.

6. The right to choose the language of learning and teaching is vested in the individual. This right has, however, to be exercised within the overall framework of the obligation on the education system to promote multilingualism (LiEP 1997).

Most of the above pronouncements talk to the multilingual nature of South Africa and how that is a characteristic of the country and how multilingualism is enshrined in the language policy of the nation (as reflected in the Constitution). There are, however, two points that are worth discussing, point number five and six. It is there that the policy gets specific and gives direction about how multilingualism is to be practised in teaching and learning. Number six states the importance of the home language for both cognitive and emotional reasons. The Department points out the importance of the home language in the educational development of the child and that the home language should be maintained. It gets even clearer when it is stated that the Department favours an additive bilingualism approach where the mother tongue is maintained while gradually introducing a second language. This policy was formulated in 1997, but in 2012 the Department of Basic Education decided to introduce the First Additional language (almost always English for black pupils) from Grade 1. Before this, the policy had been that the Additional language was introduced in the third Grade. This decision to introduce English from the first Grade needs to be looked into, to see if there are

any changes in the linguistic competence of the pupils in both languages, the home language and English.

The second point to discuss is the pronouncement in number six. It is stated that the right to choose the language of learning and teaching is vested on the student and, in the case of a minor; the right is vested on the parent to choose for the minor. Giving the pupils and parents the right to choose is worth applauding, it is important that people have the right to choose which language they want to be used as a language of teaching and learning. However, this issue of choice needs to be interrogated in as far as how realistic the choice is. Realistically, pupils who would like an African language to be used as a medium of instruction do not have the same opportunity to be taught in their home language as those who want to be taught in English or Afrikaans. This is because African languages have not been catered for in the curriculum 20 years into democracy. The argument of teaching and learning resources is always put forward as a reason why African languages are yet to be used in teaching and learning throughout basic education. This argument has been researched by Mahlalela-Thusi and Heugh (2002), and they discovered that if the government was serious about using African languages in teaching and learning they could do that on the basis of the material that was developed during the Bantu Education period. As discussed earlier, the material that was developed during the Bantu Education period was sound educational material, but it was overshadowed by the mistrust that was directed towards the apartheid government. So, the current government could use that material as the basis for further development of these languages if they were serious about allowing students the right to choose the language they would like to be used as medium of instruction.

### **2.11 Language Policy for Higher Education (LPHE 2002)**

The Language Policy for Higher Education (LPHE) was adopted in the year 2002, it is based on the recommendations of the Language Policy Framework for higher Education (2001), and the two documents are very similar with regards to their recommendations. The LPHE was meant to regulate language usage in higher education, with a view to ensuring that all of the official languages are catered for and protected in higher education. The policy acts as a guideline upon which institutions of higher learning must formulate their own language policies, because prior to the adoption of the policy, institutions had not published language

policies. Before 1994, only English and Afrikaans were used as languages of learning and teaching in South African institutions of higher learning. The catering for and protection of all official languages in higher education is in line with the broader language planning of South Africa, which emphasises multilingualism in all sectors of society.

In its introduction, the LPHE recognises that multilingualism and diversity has in the past been used as an “instrument of control and exploitation”, this referring to how language was used as a basis for classifying different language communities as separate independent nations, leading to the establishment of the Bantustans which were language based (LPHE 2002: 2). The multilingual nature of South African society was among the reasons put forward for separate development and apartheid. The LPHE is founded upon the Constitution and Bill of Rights’ acknowledgement of 11 official languages and the need to develop the previously disadvantaged languages (Constitution of South Africa 1996). The Constitution and Bill of Rights further recognise the right for anyone in a public educational institution to be educated in any official language they choose to be educated in. As pointed out in the preceding sections, as good and important as this provision is, it has yet to be proven real for African language speakers. This situation is not different in higher education; English and Afrikaans still continue to be the languages used as media for instruction in South African higher education institutions.

Section 4 of the LPHE recognises the importance of language and language skills for any individual to participate in the cultural economic and intellectual life of South African society. It is through language that one can be part of the intellectual and economic life of SA and any society. If one is not competent in the language(s) used in these sectors; their participation is likely to be limited. As it happens currently, competence in English determines how much one can progress in SA and particularly in higher education. English acts as gatekeeper. Although English is important from a global language of wider communication perspective, it is equally important to ensure that it does not act as a barrier to access and success.

Section 5 of the LPHE recognises that language has been and continues to be a barrier for access and success in higher education mainly because of two things. The first is that African languages are not as yet developed as scientific/academic languages. The second one is that the majority of students who enter higher education are not fully proficient in English and Afrikaans (LPHE 2002: 4). There is a lot of truth in this, there is an urgent need to develop

African languages as academic language in order to prevent language acting as a barrier to access and success. Paxton (2007, 2009) and Madiba (2010) demonstrate clearly how language is acting as a barrier to success in higher education, with students who come from previously disadvantaged backgrounds being severely disadvantaged by media of instruction at higher education level. It is a fact that most of these students who are disadvantaged by this language issue are students who come from township and rural schools. Most of these students went through their schooling life with the assistance of their teachers through the mother tongue, but at higher education they do not get the same benefit. It is therefore, important to develop African languages for use in higher education in order to level the playing field for all higher education students. The policy seeks to find a balance between developing the previously disadvantaged languages and creating a multilingual environment while ensuring the English and Afrikaans do not act as barrier to access and success.

In light of these challenges, the policy makes a number of recommendations and the first of those recommendations is that the Minister of education must “determine language policy for higher education” (LPHE 2002: 5). Upon the language policy determined by the Minister of Education, counsels of public higher education institutions are required to formulate and publish their institutional language policies in accordance with the language policy for higher education determined by the Minister. The LPHE, based on the Language Policy Framework recognises that English and Afrikaans are, as things stand, the languages that are used as media of instruction, The proposal put forward is that there is a need to work within this status quo until such time that the African languages are developed enough to be used as media of instruction in higher education. This is certainly a fact that cannot be ignored, at the same time though, it is important that this recognition does not simply end there. There should be time frames and targets, because without time frames there is a risk of the status quo remaining unchanged for a very long time, which will defeat the whole purpose. The development of Afrikaans is one model that could be followed; it did not take a very long time for Afrikaans to be developed as an academic language. It is true that Afrikaans had Dutch resources to use in its development, but the point is that the development of the language was a project that was taken seriously by all concerned and resources were invested in its development.

The LPHE also recognises the need for the less developed languages to be developed as academic/scientific languages so that they can be used in higher education. In this regard, the policy recommends that the development of other languages should be part of medium to

long-term strategy of the implementation of multilingualism in higher education. For this to happen, materials need to be developed and the policy recommends that corpus planning needs to be at the forefront of developing teaching and learning materials in the previously marginalized languages. There is also recognition of the need to invest resources into this project of the development of the previously disadvantaged languages over a certain period of time. These are indeed very important points, as yet, the use of African languages in higher education is not given proper and official recognition, because African languages have been shown to be getting usage from students who speak them (cf. Paxton 2007, 2009; Madiba 2012; de Klerk and Dalvit 2009).

Another area that the policy attends to is South African languages as areas of academic study and research, the policy urges institutions of higher learning to develop and enhance these fields of study, including the Khoi and Nama languages. It is important not only to develop the languages, but to research the languages themselves in the process of developing the languages and after they have been developed. This is why it is important that universities continue to encourage students to take up the study of language in order to build a community of linguists for today and the future. To this end, the Ministry of Education commits itself to making funds available in order to support research in South African languages and to ensure availability of teachers for selected languages. It is very important that the Ministry honours its commitment to make funding available for students who wish to do postgraduate studies in language studies, particularly in African languages. It is a fact that most students who wish to conduct postgraduate studies in African languages cannot afford the fees involved in postgraduate studies. This is where the Ministry has to come to the party; so far it is the DAC that has made a meaningful contribution by making funds available for developing language practitioners. The Department of African languages at Rhodes was the beneficiary of this cash injection for developing language practitioners. The Department of Higher Education and Training must start making good on these promises, especially now that the department has been separated from the Basic Education Department, these should be more focus on these issues.

## **2.12 The Development of African Languages for use as Medium of Instruction in South African Higher Education Institutions/Ndebele Report (2003)**

This report was compiled by the Ministerial Committee on the development of African languages as medium of instruction and made a number of recommendations about the development of African languages in Higher Education. The committee emphasised the need for African languages to “retain and deepen their official status”, which means that African languages should keep their official status and go beyond that to enjoying more usage (Ministry of Education 2003; 78). This is a very important point; African languages need to go beyond their recognition in South Africa’s language policy. They need to enjoy more usage in many different areas of South African life, from education to the media, politics, industry and all high function domains. This is important so that we do not end up with a language policy that is multilingual in writing, but bi/monolingual in practice. For that to happen though, African languages need to be developed, and the intellectualisation of African languages needs to be taken up seriously and urgently.

There is also a recommendation for a long term plan from national, provincial and local levels of government that seeks to make resources and support for indigenous languages available. Most importantly, though, the committee recommended that all Higher Education institutions should select an indigenous language or languages to develop in order to be used in Higher Education. It is recommended that each institution makes the choice of the indigenous language they will develop based on provincial and regional linguistic circumstances and concentration of speakers and students. What that means is that in certain provinces where a certain indigenous language dominates, as is the case with isiXhosa in the Eastern and Western Cape, that language should be prioritised for development. This is a critical step because universities are places where knowledge is produced and giving them this responsibility gives the project a brains trust. At the same time, universities have to be adequately supported financially in order for them to be successful.

In order to encourage multilingualism, the report also recommends that in instances where there is a linguistic community besides the dominant language community in a certain region; their language should also be developed. That means, if for instance in a region dominated by isiXhosa there is language community that speaks a language in the Sotho family of languages like Sesotho, that language must also be developed as a medium. This is good for the promotion of multilingualism, but I am concerned about resources, about whether or not

they would be available to develop two languages at the same university. I raise this issue because developing another language that might not have academic staff members who speak it would mean that new staff members would have to be hired and that will cost lots of money. The point I am trying to make here is that, it will not be easy to develop a language that is not offered as a course in a given university because there would be no structural support to work with. The report makes more recommendations, but I focus on these because they directly affect the subject of this research.

### **2.13 Rhodes University's language policy (2005)**

Rhodes University's Language Policy is formulated according to the LPHE and the Ministerial Report. The policy was drafted by the university and adopted by the Council in 2005. In 2011 a Language Committee, composed of language experts was established in order for it to focus on the implementation of the policy. The document has five key focus areas, some of which are reflected in the LPHE.

- Firstly, the document seeks to ensure proficiency in English since it is the medium of instruction at the university.
- Secondly, it seeks to advance the academic viability of isiXhosa, Afrikaans and English.
- Thirdly, the policy looks at the promotion of multilingualism at Rhodes University.
- Fourth, the policy also addresses the advancement of the study of foreign languages.
- Fifth, is the provision of support for the development of academic literacy.

From the five areas or objectives, attention will be paid to those priorities that have to do with language and learning, and the provisions that the policy stipulates for African languages and in particular isiXhosa at Rhodes.

With regards to support for South African languages, the policy states that the university aims to strengthen courses that are offered in English, those offered for isiXhosa non-mother tongue and Afrikaans. Rhodes University also seeks to “strengthen the current status of isiXhosa by promoting its usefulness as a medium for all academic and support staff” (Rhodes University 2005: 4). The above provisions are mainly about supporting all three of

the official languages of the Eastern Cape by making sure that the courses that are offered in these languages continue to be offered. The second is more interesting as it refers directly to isiXhosa and how the usefulness of the language as a medium should be promoted especially for academic staff. Academic staff deal with students in the lecture halls and in tutorials, and isiXhosa in a university that is in the Eastern Cape is a tool that can be used to facilitate teaching and learning. When this happens, it will go a long way in making sure that isiXhosa retains and entrenches its status as is stated in the Ministerial Report (2002), because languages develop as they are used. When this happens, that will go a long way in developing the language for use as a medium of instruction, it must start somewhere.

To achieve these goals, the School of Languages, the Communications and Development Division and the Human Resources Divisions are tasked with certain responsibilities. The School of Languages is tasked with the responsibility of recruiting students into courses in isiXhosa and Afrikaans. It should also encourage and help departments to make definitions available in isiXhosa for a wide range of disciplines for staff and students in order to facilitate learning. This means that the university recognises the need to assist students in understanding the curriculum using their home language. In this way, the university is also doing what was proposed in the Ndebele Report (2003), in that it is looking to develop isiXhosa by making these technical terms available. This is a step in the right direction, but the university has a wide range of departments and disciplines, therefore, the wisdom of putting the responsibility for these developments on the School of Languages should be questioned. The School of Languages should facilitate the process, but it must not be a process that involves all stakeholders within the university. It is when everybody is involved that a lot of ground can be covered and that the project be seen as more than just about language, but about language and learning.

The School of Languages is also given the responsibility of exploring the possibility of collaborating with neighbouring universities to create a centre for postgraduate programmes in isiXhosa and Afrikaans. This would be very good because it would encourage more research in these languages and especially isiXhosa, as more research still needs to be done in the language. It will also encourage more close collaboration between the different universities and that will benefit the languages. In order to encourage research and the study of isiXhosa, the School of languages is also tasked with possibly re-introducing postgraduate programmes for mother tongue speakers of isiXhosa and offering incentives for those students. Postgraduate students are very important for the development of a language because

they increase the body of research done in the language and they also increase the numbers of academics for the language in the future. The Communications and Development Division is tasked with making explanatory addenda available on documents where possible in isiXhosa and Afrikaans and making funds available where possible for additional signposting in isiXhosa and Afrikaans in major buildings and translating key university documents. The Human Resources Division on the one hand is asked to devise strategies to encourage staff members who do not speak isiXhosa to take up short communication courses in the language. They should also indicate in vacant posts that competence in more than one official language is a recommendation.

With regards to the promotion of multilingualism, the policy makes a number of provisions, and again delegates certain responsibilities to certain departments. From these provisions I pick out a few that relate to language and teaching. The policy requires Academic Departments to be sensitive to “demographics when allocating first-years to tutorials and aim for bilingual tutor support wherever possible and appropriate” (Rhodes University 2005: 5). Bilingual tutors are very important as shown in Paxton (2007, 2009). Bilingual tutor support allows tutors and students the chance to use the mother tongue to make sense of technical terms. It is my view that bilingual tutors should be compulsory and words like “wherever possible” should be done away with because there is a serious need for bilingual tutors and Paxton’s research shows that clearly. Academic departments are also encouraged to make multiple copies of appropriate dictionaries available in the library, and also those dictionaries be made available where appropriate in examinations. Academic departments are also required to facilitate constructive debates about bilingualism, multilingualism, and the role that language plays in learning. The Academic Development Centre is instructed to establish courses that will train new lecturers about methods and techniques for teaching students who speak many different languages and also to encourage existing staff to take up such courses.

Taking a closer look at the Rhodes policy and the recommendations of the LPHE and the Ministerial Report, the policy is not very clear on how isiXhosa will be developed to the extent that it can be used as a medium of instruction. The policy does not make clear strategies that the university will use as far as isiXhosa and its development are concerned. Most of the responsibility for the development of the language is put on the School of Languages. A project of this nature should be driven by more than an individual department; it should be a university wide project where all the Faculties and their departments are involved in this process. If all the responsibility is put on the School of Languages, the

likelihood is that they will have capacity to develop the language mainly for their own use, not for other disciplines.

As far as implementation is concerned, the School of Languages and in particular the African Languages Department has done a lot of work in this regard. The department offers vocational isiXhosa courses to a number of Faculties and departments like Pharmacy, Law, in the Humanities they offer these courses for departments like Journalism and others. The department also succeeded in re-introducing mother tongue isiXhosa studies at undergraduate and postgraduate level. The department has Honours, Masters and PhD students. The department has an output of research programmes which research on the intellectualisation of African languages and provide the nation with language practitioners in areas such as translation, terminology development and lexicography. The School of Languages has also been very instrumental in facilitating debate and discussions around multilingualism in the university through conferences and colloquiums. Given the scope of this research, I am not going to elaborate on each of these achievements.

#### **2.14 The more things change; the more they stay the same**

English was entrenched with the help of the colonial governance system and Afrikaans was developed and promoted under the apartheid system while African languages were oppressed on purpose, this is the reality of the language situation in South Africa. The recognition by the Constitution of 11 official languages was a big and important step in language policy and planning of the democratic dispensation. The post-apartheid language policy recognized the multilingual and multicultural nature of the society and embraced that, which was important as it recognised people's identities and citizenship of the country, which is something they never had under the colonial and apartheid system. With that said though, the policies have not led to real transformation of the language situation yet; English and Afrikaans still dominate most of the high function or controlling domains. There are lots of policies that have been discussed in this chapter which are there to regulate language usage and ensure the protection and development of the previously marginalized languages. With all of these policies in place, things to a large extent remain unchanged. Twenty years since the recognition of African languages in the language policy of South Africa, they are still dominated by the languages that have historical privilege.

One of the reasons for this situation is the lack of political will to change the situation from those in the upper echelons of government, academia and the private sector. It is easier for them to ignore the development of African languages because they and their children are proficient in English, which will allow social and economic mobility. The development of African languages has the potential of lifting people out of illiteracy and underdevelopment which persists currently because of the fact that not everyone has access to the best English teaching and learning. English continues to act as a class barrier between the working and middle class as it was in the past. The past itself is not innocent in the current state of affairs, because it was during the resistance against apartheid that English gained a lot of ground in the minds and hearts of black South Africans, but as Neville Alexander put it, English is unassailable, but unattainable either (Alexander 1999). As desirable as it is for everyone, not everyone has access to it and that is set to continue. African countries have tried to eradicate illiteracy through European languages and all of those attempts up to now have been resounding failures (Bamgbose 1991).

Things have changed as far as policies that favour multilingualism and language diversity in South African society and particularly in education, but the situation that the policies were meant to change has not changed. English still dominates and African languages are still pushed to the background of education in all levels of the education system.

## **2.15 Conclusion**

This chapter dealt with the linguistic legacies of the past by looking at relevant periods in South African history that influenced the present in different ways. The language situation was traced from the time of the arrival of Dutch and subsequent development of Afrikaans in South Africa and the development of Afrikaans from Dutch. The development of isiXhosa from an oral to a written medium was also discussed and the different people that played a meaningful role in its development. This chapter also looked at the linguistic developments under the Union and apartheid governments and how isiXhosa fared during those periods. Post-apartheid government policies relating to language and education were discussed, starting from the Constitution to Rhodes University's language Policy. The next chapter will be dealing with a review of relevant literature to this study. This literature will be creating a theoretical framework for this study, the framework within which the data collected was analysed.

## **CHAPTER THREE**

### **LITERATURE REVIEW**

#### **3.1 Introduction**

This chapter reviews the relevant literature on the subjects of multilingualism in higher education (and education generally), particularly focussing on the use of African languages in South African higher education institutions. It seeks to present, examine and engage with views of scholars about the use of indigenous African languages in higher education. I will review, and discuss work that has been done by different scholars in the area of bilingual and education. This chapter will look specifically at additive bilingual education, meaning that it will look at education systems where the first language and second language are used in teaching and learning. This chapter will also look at the development of scientific/academic concepts in school aged children and the role that language plays in the development of academic concepts. These are important issues to look at within the context of a South African higher education sector that is dominated by English and to a less extent by Afrikaans, where students to whom English is a second language are taught exclusively through a language other than their mother tongue. In the process of trying to assist these students, it is important to look at the literature that is available, in order to see what proposals have been made by other scholars and how multilingual education is working in other parts of the world. There are also on-going debates about the use of African languages in higher education. Those debates will also be presented, discussed and engaged with.

#### **3.2 Bilingual Education**

In their book entitled *Bilingualism in Education*, Cummins and Swain (1986) discuss a number of issues about bilingual education and how important bilingual education is for minority language students. By minority language students they refer to a situation where students who speak one language find themselves, for various reasons i.e. migration to a country where another language is a majority language in all aspects of life. In such a case, the language they speak becomes a minority language and they also become a minority within that particular society. In South Africa, and most of the African continent, the situation

is slightly different, in that African languages are a numerical majority, but are minority languages when it comes to usage in controlling domains. By virtue of the functional space they enjoy in controlling domains like education, the media and government communication, English, French and Portuguese are majority languages in most African states. In South Africa, this situation also prevails in education as most of the education is conducted through the medium of a language that is not the home language of most African students. Thus, these students face the same difficulties that are faced by minority students who have moved from their country of origin to a country that does not speak their language, where they have to learn a second language. In the domain of higher education, African students come into universities that were previously reserved for white students, meaning they become a minority linguistically and numerically.

Cummins and Swain (1986) put forward a ‘first things first’ argument when it comes to language development in childhood. They argue that the first language must be developed and strengthened in the early years of a child’s intellectual and educational development before worrying about a second language. The child’s first language plays a key and central role in the child’s educational development and its development “must be seen as a high, if not the highest priority in the early years of schooling” (Cummins and Swain 1986: 101). The reason why the development of the first language is seen as important has to do with the emotional and psychological development of the child. When the language of the child, which happens to be the language of the child’s family and friends, is seen as being inferior and insignificant, that is bound to have a negative effect on the child. Language is more than a tool for communication, it forms part of a person’s identity and when a student’s language is seen as inferior that also gives the impression that the people who speak that particular language are also inferior. This is why Cummins and Swain (1986: 101) argues that when your language is seen as inferior and “non-functional in school is to negate your sense of self” and that is likely to demoralise the student psychologically. This might very well make the student see him/herself as inferior and denigrate self. When the student’s first language is seen as non-functional, that might lead to a number of negative responses like the student rejecting his/her family or getting frustrated with the education system or with the teachers, as seen in studies like (Gardner and Lambert 1972). Such responses instead of keeping students in school are likely to push students away from the schooling environment because they do not see anything to be gained at school. This is why Skutnabb-Kangas (2012) argues that students’ do not drop out of the system, they are pushed out of the system, by language

among other things. With South Africa having a relatively high dropout rate of students between Grade 1 and Grade 12, one wonders if the language factor does not have anything to do with the high dropout rate. The very same question can be posed with higher education as well, because not all students who come into the system make it out after their three and four year degrees. It is the argument of this study that language is among the top reasons why students, especially LOTE speaking students are not succeeding the same way that English speaking students are.

There are benefits in using the student's first language and the first and foremost of those is that when the language of the student gains acceptance in learning, this is "the first step in creating an environment where learning can occur" (Cummins and Swain 1986: 101). Encouraging the students to use their first language is very important and the best way to do that is by using the language as medium of instruction. This will have a positive impact on the student, as it will make them realise that the first language is a tool that they can use and will go a long way in helping students with comprehension of the material they are engaging with, which could also enhance academic performance. The use of the first language also allows for the inclusion of parents in their children's education by way of their involvement in helping with homework. As things stand in working class South African families, parents are not really involved in their children's education, and language could be one of the reasons for this. Some working class parents cannot read or write or can read and write, but only in their mother tongue, which means the parent cannot help the child with the English homework the child comes home with.

Cummins and Swain (1986) propose a threshold hypothesis in language learning and bilingual cognition. The threshold hypothesis suggests that:

[t]here may be threshold levels of linguistics competence which bilingual children must attain in their first and second language both in order to avoid cognitive disadvantages and to allow the potentially beneficial aspects of becoming bilingual to influence cognitive functioning (Cummins & Swain 1986: 6).

What Cummins and Swain argue is that both the first language and the second language are equally important in the development of a bilingual student. This point is of critical importance is situations where students come into an education system that uses a language other than the student's first language. In instances where a student is taught through the

medium of another language that is not the mother tongue, like English, there is normally a push to have the student taught through the L2, because the belief is that this will result in the improvement of the student's abilities in the L2. Because students demonstrate competence in their L1, competences like speaking, and pronunciation; there is a belief that there is no need to develop the L1 any longer, that students should instead focus on the L2. This is where Cummins (1980) distinguishes between Cognitive Academic Language Proficiency and Basic Interpersonal Communication Skills. According to Cummins, CALP refers to "those aspects of language proficiency which are closely related to the development of literacy skills in L1 and L2", meaning that these are skills that are connected with thinking (Cummins 1979). BICS on the other hand refers to aspects of language proficiency that have to do with communicative competency such as accent and oral fluency. BICS is mostly context embedded where students rely on contextual information around them to make sense of information they have to decode. The minute information becomes less contextual and more abstract, students who only have BICS start to struggle. Cummins was criticized by some scholars who argue that the concepts BICS/CALP mistake language ability and academic achievement and also that the BICS/CALP distinction gives special status to the language of educated people and making that language to seem as more correct. It seems as though that this criticism against BICS/CALP is more directed towards superficial issues around the concepts and not so much about whether what Cummins proposes is true or not. It does not really matter much what one calls them, at the core of it, as learners develop, they develop basic communication skills and later on develop cognitive and abstract thinking.

In support of bilingual education and the threshold levels of literacy in both languages, Skutnabb-Kangas and Toukoma (1976) conducted a study on the children of Finish migrant workers in Sweden. The results of the study showed that the linguistic abilities of the children "were characterized with semilingualism", meaning that their language skills in both languages, Finish and Swedish, were considerably lower than expected for their age (Skutnabb-Kangas and Toukoma 1976: 9). They found out that there was a relationship between the level of proficiency in the L1 (Finish) and the level of proficiency in the L2 (Swedish). The extent of the development of Finish before contact with Swedish was related to how well the second language was learnt. Children that migrated when they had started schooling already, who were around age ten seemed to maintain Finish proficiency similar to Finish students in Finland and they also attained Swedish levels comparable to Swedes. At the same time, students who migrated in the first or second year of schooling or before they

started schooling were likely to attain low levels of literacy in both Finish and Swedish. Based on these findings, Skutnabb-Kangas and Toukoma (1976) proved that the first language is very important in the educational development of the child. They argue that the first language must be maintained by the schools and should not come second to the second language that the child is learning. Schools must reinforce the first language because it has a functional significance in the development of the child. The fact that the level of competence attained in Finish was equal to the level of Swedish attained is illustrative of the interdependence between L1 and L2. The outcomes of the research are very important for our context in South Africa, because there is always a belief that African language speaking students do not need to develop and deepen their capabilities in their mother tongue, they can just go on to English easily. Skutnabb-Kangas and Toukoma demonstrate exactly the mistake we should try to avoid by giving enough room for both languages develop together in an effort to make learning easy for the student.

Cummins and Swain (1986) further argue that in situations where the development of both languages is encouraged, there is evidence of positive linguistic effects. Cummins and Swain quote a number of studies that were done into bilingual education in different countries. After reviewing the studies, a few factors are picked up. One of them is that from previous studies, positive findings were associated with children from majority languages as in the case of the French immersion students, while negative findings are associated with children from minority languages (Lambert 1977; Burnaby 1976). These studies suggest that majority language children can easily learn a second language and learn through a second language, but the same is not totally true for minority students. In the French immersion case, the children are English first language speakers and they are immersed into French, but they still have the advantage of having the first language enjoying high status in the community. Another factor picked up is that positive results are also associated with situations where both L1 and L2 are seen to be having economic and social value. Positive results included bilingual students whose L1 was socially dominant and prestigious and in no danger of being replaced by the L2 (Fishman 1976). This form of bilingualism is called “additive in that the bilingual is adding another socially relevant language to his repertoire of skills at no cost to the L1” (Cummins and Swain 1986: 18). Although the South African language in education policies promote additive bilingualism in writing, the actual practice goes towards a subtractive form of bilingualism. This study seeks to argue for an additive form of

bilingualism, which as shown by the studies sighted above will cognitively benefit the learner.

This point about adding another socially relevant language is worth noting, especially in the South African context where African languages are not really seen as educationally and economically relevant. Large numbers of speakers of African languages do not see much value in learning African languages or learning in African languages (Webb 2004). This then puts pressure on the first language of students as it faces the possible threat of replacement by L2, and more and more leading to a subtractive form of bilingualism. Considering what Skutnabb-Kangas and Toukoma (1976) found in the Finish migrant children case, this brings about the question of when that subtractive bilingualism does happen, what kind of L2 proficiency will the student have since the L1 is gradually being replaced by L2? Studies that reported negative results involved bilingual students who came from language minority students whose L1 was in the process of being replaced by a more socially dominant and prestigious L2. In such cases where there was this subtractive bilingual situation at play, these students were characterized by less native like competency in both languages, the L1 and the L2. This proves the point that there may be threshold levels of competency that a bilingual child must attain in both their languages in order to avoid cognitive disadvantages. In other words there must be a conscious effort to develop both of the child's languages without prioritising one language at the expense of the other.

There is a belief from some, that if minority students' second language is not developed enough there is a need for the student to receive intense tuition in the second language in order to improve the student's proficiency. This argument, therefore, suggests that proficiency in the first language is different from proficiency in the second language and that all skills learnt in the first language are separate from those of the second. The argument is that whatever a student learns in an L1 will have to be repeated in the process of learning in the L2. Cummins and Swain (1986) refer to this model as the Separate Underlying Proficiency (SUP) model and it looks at bilingualism as a process where the two languages known by the bilingual are in a two way stream that never crosses paths. Cummins and Swain (1986: 82) argue that there "is little evidence to support the SUP model" to bilingualism. If there is little evidence to support a SUP model this brings into existence a Common Underlying Proficiency (CUP) model. The CUP model argues that there is a common underlying proficiency of literacy related skills between L1 and L2 across languages. The CUP argument is that there is an interdependent relationship between the two languages, both

the languages are seen as important and needing each other. The two languages might differ in surface structures i.e. syntax, phonology, and these structures have been automatized by the mind of the bilingual and are less demanding. However, the common proficiency refers to the cognitively demanding communicative tasks; these tasks are dealt with from the common proficiency underlying both languages (cf. Baker 2001).

The CUP model is based on three sources of evidence that support the view that language proficiency across languages is common. It is based on results of work done on bilingual education programmes; it is based on studies relating age on arrival and migrant students' L2 acquisition and studies relating bilingual language use in the home to academic achievement. Looking at the results of bilingual education programmes first, the results show that the L1 of minority students can be promoted at school without that having a negative impact on the learning of L2 (San Diego City Schools 1982). The results also show that well implemented bilingual programmes demonstrated the interdependent relationship between the L1 and L2. In the studies cited by Cummins and Swain i.e. *English-Ukrainian Programme in Edmonton (1974)*, *Alberta, Bradford Punjabi Mother Tongue Project (Rees 1981)*, *San Diego Spanish Language Immersion Programmes (1982)*, the programmes were able to develop English skills even though the students had less exposure to English compared to monolingual English programmes.

Turning attention to the age on arrival issue, the studies show that students who are older and who are more cognitively mature and have developed cognitive skills in their L1 acquire L2 skill much quicker (Cummins 1981c; Genesee 1978). This is influenced by the interdependence principle between the two languages, as the students' L1 is developed already, it allows for the development of cognitive skills in an L2 to be easier and quicker. This has to do with the fact that for these students' it is a case of assigning a new linguistic label to concepts whose meaning have already been developed in the mind through the L1. So, when it comes to cognitively demanding aspects of L2, students whose L1 has developed cognitive skills, it is easier to transfer the same skills to the L2. Where older students seem to be at a disadvantage it is in the surface features like pronunciation, which is a less cognitively demanding aspect and therefore a more communicative feature. If we look at this from South African point of view, South African students are expected to develop cognitive skills in English very early, which means they are expected to develop cognitive skills in an L2 before the L1 has developed. These studies quoted show that students whose L1 was developed well enough found it easier to acquire an L2. This is an approach that needs to be considered in

South African education from primary to higher education, where the L1 comes first and is strengthened.

The third aspect to look at is the development of language within the home environment. The data for looking at language in the home was collected from Spanish speaking migrants in the USA. The results showed that students whose first languages was maintained in the home performed much better than students who had switched from Spanish to English completely in the home. This can be attributed to the fact that in the instances where the home language, (Spanish) remained the language of the home, there was an environment where additive bilingualism was fostered (Carey and Cummins 1983). Whereas in the cases where Spanish was done away with in the home, this was a situation where subtractive bilingualism was at play and the children did not perform as well as they could have.

Cummins and Swain (1986) also respond to the ‘maximum exposure hypothesis’, which is based on the belief that minority language students must be exposed to as much English as possible and that exposure will deal with English deficiency. This hypothesis is based on the view that the more a student is taught in English and the more they are exposed to English around them, they will understand more English. The data and the studies presented refute the maximum exposure hypothesis with regard to the causes of the underachievement of minority students, especially when students have developed L1 cognitive skills (Dolson 1984). The studies show that when the L1 has been developed, students do not need exclusive exposure as some people are suggesting. This, however, does not in any way mean that exposure to the L2 is not important, but that the students L1 cognitive academic skills are as important as exposure to the L2.

The importance of exposure to the school language is not being downplayed, it really is important for the development of academic skills. At the same time though, what is also important “is the extent to which students are capable of understanding the academic input to which they are exposed”, and this is the whole point of learning (Cummins and Swain 1986: 94). It will be pointless and futile to bombard students with information that they do not understand and process to make meaning. This is consistent with what (van Zyl 1961 cited in Mahlalela-Thusi and Heugh 2000) observed about how isiXhosa speaking students were taught and perhaps still are in the Eastern Cape. Van Zyl notes that isiXhosa L1 speaking students were taught through the medium of English all of their subjects and isiXhosa was taught as a subject. Because of the fact that all the other subjects were taught in English, “the

children did not understand all the teacher taught them” and this meant that a lot of time was wasted on explaining difficult terms (van Zyl 1961; cited in Mahlalela-Thusi and Heugh 2000: 245). By the time the children got to high school they struggled because they knew a lot of English, but did not know the content they were supposed to have learnt in the lower grades. There was very little time devoted to teaching and learning isiXhosa at school. The question now becomes what is the purpose of learning, is learning equal to knowing English or is learning knowing the content? Van Zyl continues and says:

[T]eachers had the mistaken idea that pupils knew Xhosa and therefore did not need special attention. They forgot to ask themselves why Afrikaans and English children dedicated so much time to their respective languages at school (van Zyl 1961, Cited in Mahlalela-Thusi and Heugh 2000: 246).

In this particular case maximum exposure to the schools language did not benefit the students, instead it handicapped them, because the input they were receiving was not cognitively developing the L2. What happened in this case is that the teachers succeeded in developing the children’s communicative competence as they were able to speak a lot of English, but cognitively were found wanting. This strengthens the case for the need to develop both the L1 and the L2 that the students’ speak, this is what policy makers and parents seem to be missing when it comes to language and education in South Africa.

There is also sometimes an ill-informed assumption that the “proficiency required for face to face communication is the same as that required for L2 cognitive academic tasks” and the case above being one example (Cummins and Swain 1986: 140). In these cases, the fact that a student can speak English well is assumed to mean that the student’s English proficiency is at a level where they can cognitively and academically function in English. In the United States, as soon as kids demonstrate English fluency skills, they are moved to monolingual English programmes. When they fall behind and perform poorly in the monolingual English programmes, “their poor performance can no longer be explained by their English deficiency” and cognitive or cultural explanations are given for their underperformance (Cummins and Swain 1986: 14). This shows that there is a difference between oral language fluency and academic skills and the two should be treated as two separate skills. It is unfair for students to be thrown into the deep end, and when they cannot cope that is interpreted in psychological terms because in doing so the reason for their underperformance is overlooked.

There was an assumption in the United States from some educationists that there is a relationship between verbal communication skills and logical reasoning and that lower class and minority students could not reason logically because they could not speak middle class English (Labov 1973). This assumption identifies language proficiency with the ability to master surface structures of English “which in turn was viewed as the pre-requisite to both logical thinking and educational progress” (Cummins and Swain 1986: 144). This means that logical reasoning is only available to people who speak middle class English with middle class speaking traits. This view is seriously lacking in understanding what it means to develop cognitive proficiency, because that is what students need in order to succeed academically. Language proficiency cannot be judged according to surface structures like pronunciation, because languages do differ according to surface structures. The fact that a particular student speaks English in a way that seems to be different to the way an L1 speaker does is not an indication that the student does not know the language. It is inevitable that an L1 speaker and L2 speaker might use the language differently when it comes to verbal communication skills, but what should be looked at is the cognitive academic proficiency of the L2 speaker. This view is really unfortunate because it is always directed towards L2 speakers of English, but when L1 speakers of English speak another language as L2 they will never be seen as people whose reasoning is illogical when they do not demonstrate native like verbal abilities. This is a very important issue to look at, especially in the context of African language speaking students’ whose academic abilities are sometimes doubted because they do not show a type of proficiency that those who speak middle class English expect. This also brings up the question of which English or whose English, since English is spoken across the world and has developed differently in the different places it is spoken (Bokamba 1982; Bamgbose 1982).

Research on bilingualism and bilingual education also found that there are benefits to bilingualisms. While Cummins and Swain argue for a threshold and interdependence hypothesis, Baker (2001) takes it a step further by linking threshold levels of literacy with divergent and creative thinking. According to Baker “balanced bilinguals have superior divergent thinking skills compared with unbalanced bilinguals and monolinguals” (Baker, 2001: 147). Divergent thinking refers to the ability of an individual to think freely and imaginatively, finding different, but valid answers to a single question or problem. This is important because it means that bilingualism allows one to think creatively. Studies also found that bilingual children were able to understand the arbitrary relationship between word

and referent. Because bilingual children use two languages, they understand that an object can be represented by different words, as is the case when they refer to the same object in two words from both the languages they speak. This is in line with Vygotsky's argument that the ability to express the same object in more than one language allows a child to be aware that "his own language is one particular system among many systems... and this leads to awareness of his linguistic operations" (Vygotsky, 1986:196).

### **3.3 Development of scientific/academic concepts**

Lev Vygotsky was among the first scholars to look at the relationship between language and thought and how concepts develop in the minds of children. Vygotsky (1986) argues that meaning is an act of thought and at the same time, meaning is an unchangeable part of word and therefore, meaning belongs in the realm of thought and language. This means that words without meaning are useless and are not part of human speech. He argues that since the meaning of words is both in the region of thought and speech "we find in it the unit of verbal thought we are looking for" (Vygotsky 1986: 6). This means that there is an established relationship between words, thought and meaning, and when a word lacks meaning, it can no longer be considered a word. Meaning on the other hand comes about through thought, because "meaning is an act of thought" (Vygotsky 1986: 6). In this process of thought, words cannot be understood without knowing what the words refer to. For instance, children cannot easily learn a new word and their difficulty has to do with the fact that they do not know the concept to which the new word refers. When the concept has matured in the mind of the child, the word will also be available and will be meaningful to the child, the word will follow the concept.

According to Uznadze (1966 cited in Vygotsky 1986), in the process of interaction between people, a group of sounds acquires a certain meaning, and this group of sounds becomes a word or a concept. Any group of sounds that is lacking in this communicative element would not have any meaning to it, and therefore, could never be a concept. From the onset, children are raised in a language environment, and by the time they are two years of age they start using these words that they hear in their environment, not a combination of meaningless sounds. As the child develops, "these words acquire more and more differentiated meanings" (Vygotsky 1986: 101). The thinking of the child is developed through a process of socialization in the environment that the child grows; it is later on in this process of

socialization that concepts are formed. Any new word that a child acquires goes through a gradual process that does not stop until the concept has been formed because meaning of words develops as the child also grows.

Vygotsky (1986) believes that straight forward learning of concepts is a futile exercise, because children do not develop concepts in that process, but rather they memorize words. Instead of learning what the concept means, the child will only learn the word, and this will fill the child's memory rather than thinking. The reason why straight forward learning of concepts does not work is because it is not the word that is unintelligible, but children lack the concept that would be able to express the word that particular concept (Vygotsky 1994). This is where the socialization of the child into a language environment becomes important because it is context embedded, and therefore, is easy for the child to grasp word meaning leading to a concept. It is further argued that "academic concepts are not assimilated or taken up by memory, but arise and are formed with extreme tension in the activity of his thinking", which again makes the point that the thinking of the child has to go to a higher level of abstraction (Vygotsky 1994: 565). The higher levels of abstraction needed cannot arise unless the child has the context embedded initial general information.

Concept formation is a creative, not a mechanical process, because concepts are formed in the mind of a child when there is a problem that needs to be solved. Unless a child is challenged to think at a level higher than what they are currently thinking, the need for a new concept to emerge will not be there. Concept formation is seen as a complicated and real act of thinking, which cannot be mastered by simple memorization of words. This, therefore, requires the child's thinking to rise to a higher level of internal development, thinking and abstraction, and only then will the concept be formed in the mind of the child. This goes back to the point about the meaning of words; a student cannot understand the word unless they understand the meaning of the concept. According to Arch (1921, in Vygotsky 1986: 100),

[m]emorizing words and connecting them with objects does not in itself lead to concept formation; for the process to begin, a problem must arise that cannot be solved otherwise than through the formation of new concepts.

The formation of concepts is a process that requires all intellectual functions to work together and all to play a role in the development of conceptual thinking. It is not a case of the development of one of the intellectual skills that will eventually lead to concept formation. Intellectual skills like association, attention, imagery and judgement and determining

tendencies are all important skills that need to be developed. These skills, however, are not enough or will not lead to the formation of a concept without the use of a sign or word. Vygotsky (1986) argues that it is words and signs that direct and control the course of our mental operations and guides us to the solution we are looking for. Real concepts cannot be formed without the use and understanding of the meaning of words. The first step, therefore, in the formation of concepts is the use of words as functional tool.

The fact that children have to grow up in the real adult world also has a role to play in the development of conceptual thinking, because it is when the child is confronted with the realities of the real world that he/she is challenged by what is around him/her that she/he gets stimulated and challenged to think. What is clear from Vygotsky (1986)'s arguments is that concepts do not just appear, there needs to be a need for the development of the concepts and the child needs to be stimulated intellectually for the process of concept formation to begin. A very important point to be taken out of Vygotsky's argument is that learning is a social activity and children start learning through socialization. Learning does not happen in a vacuum, but rather, learning happens within a context and the process of concept development is scaffolded by the socialisation of and immersion of the student into knowledge.

Vygotsky (1986) conducted a study on the development of academic concepts and this study demonstrated that the development of academic concepts in the child's mind is a process that takes a number of phases for the concept to emerge. The study was conducted by using a method where the subjects were introduced to nonsense words that do not mean anything at first. The method also introduced artificial concepts by attaching each of the nonsense words to a particular combination of characteristics of the object which does not have a concept or a word. The objects were in the form of 22 wooden blocks that were different in colour, size shape and height, the underside of each of the wooden blocks has one of the four nonsense words *lag*, *bik*, *mur*, *cev*. Regardless of colour or shape, the words were allocated as follows; *lag* was placed on all tall large figures, *bik* on tall flat large figures, *mur* on tall small figures, and *cev* on small flat ones. The examiner turned up one of the blocks and showed it to the subject, he then asked the subject to pick out blocks that the subject believed to belong to the same class as the block they were shown.

The first phase that the child goes through in the process of academic concept formation as observed by Vygotsky (1986) is a stage where a child puts together a number of objects into an unorganized 'heap'. Instead of creating an object, a child creates a heap, in a similar

situation, an adult would form a new concept to solve the problem in front of them. This heap is not based on anything; the objects are not collected based on anything that makes real sense. This grouping of objects based on nothing shows “an undirected extension of the meaning of the sign (artificial word)” to unrelated objects that are not based on anything but chance in the mind of the child (Vygotsky 1986: 110). At this stage, to the child, word meaning means nothing more than a combination of vague individual objects that have somehow become an image in the child’s mind. This phase in the child’s development of the creation of syncretic heaps can be referred to as the ‘trial and error’ stage of the creation of concepts. The group is randomly created; all additions to the group are guesses and are replaced just as easily as they were added when it turns out that the addition was incorrect. On the next stage the group is composed based on the positioning of the objects in the eyes of the child, this group is formed on the basis of spatial relation of the objects. The third stage in the first phase of concept creation is a situation where the group is composed of different elements that come from the groups that have been explained above. This new group also has elements that are not related in any way, but the child is trying to somehow give meaning to a new word in a way that is still incoherent.

The next phase towards the development of concepts is what is called ‘thinking in complexes’, a phase where objects are not only brought together by the child’s subjective reason, but by a relationship that actually exists between the objects. At this phase the complexes created have a functional equivalence to real concepts, where syncretic thinking is replaced by grouping of objects that are related to each other. The child no longer mistakes the way things make sense to him with connections between the objects, which is a step towards objective thinking. Complex thinking is “already coherent and objective thinking”, but it is different to conceptual thinking in that it does not reflect the relationship between things in the same way as conceptual thinking does (Vygotsky 1986: 112). Within a complex, the elements within a complex are brought together by concrete and factual bonds instead of logical and abstract bonds. The fact that the elements within complex are not based on logical bonds that bring them together means that all the bonds within it will not be based on logical reasoning. This is where the difference between complexes and concepts becomes obvious, complexes group according to factual bonds that might in reality be very diverse, whereas a concept groups objects according to singular attributes.

The phase before the creation of an actual concept is called the pseudo concept phase. In the pseudo concept phase, after having thought in complexes, the child produces what seems to

be the correct concept that would be expected even from an adult. Even though this concept looks like the real concept, “it is psychologically very different from the concept proper” (Vygotsky 1986: 119). This means that the child is still in the process of developing concepts but has not yet reached the point of concept development, but is close to that point. A pseudo concept looks similar to an actual concept, but the difference is in the process that produces a pseudo concept and that which produces an actual concept. In Vygotsky’s experiment, he found out that when given an experimental object in the form of a yellow triangle, for example, the child would pick up triangles from the material in front of him. In this case the child is not guided by the idea of a concept of a triangle but rather by the concrete physical object. This phase in the development of conceptual thinking is very important especially in the context of English Additional Language students. EAL students have to deal with academic concepts in a language that is an additional language. The question becomes, how far are they in the development of the relevant academic concepts for the field they are studying? It might be that some EAL and English first language students struggle with their disciplines because they are still at a pseudo concept phase and have yet to develop actual concept. However, grappling with concepts in a language other than one’s home language will complicate their situation further, as it would appear to be the case with some Rhodes University students who participated in the present study.

The actual development of an academic concept is attributed to instruction where a child works with an adult (teacher), which means it is through instruction and help from the adult that plays an instrumental role in the development of the concept. Instruction is important because it directs the child’s evolution in concept formation and it determines the direction that the child’s conceptual development will take. Academic concepts and everyday life concepts are different, which is why instruction is as important as it is, because everyday concepts develop with the child as he grows whereas academic concepts are found in the classroom. Having been developed with the help of an adult, academic concepts also have the advantage of being deliberately used as compared to everyday concepts, which means a student has to learn academic concepts and have them explained in different ways by a teacher. The development of concepts as shown by Vygotsky is a long process that goes through a number of phases that have a number of stages. The development of full academic concepts seems to hinge on instruction from a teacher or lecturer. The role of an adult is very important because through that process of instruction, a student is not left to his own devices in the development but have someone who can explain in order to make the process easier.

However, in situations where the lecturer is monolingual while his/her language is also different from the student's home language, instruction may be characterised by miscommunication, communication gaps and even communication breakdown, leading to the student failing to benefit optimally from tuition. This also seems to be the case in some students involved in the present case study, as it will be illustrated in the subsequent chapters.

### **3.4 African languages in higher education**

Up to this point, this literature review has looked at bilingualism and bilingual education, and has also looked at the development of concepts. Now the attention is turned onto the literature that deal with same issue of bilingual education, but within the context of higher education in South Africa where African languages are central to the debates.

Madiba (2010) writes about the University of Cape Town's (UCT) experience in the attempt to introduce multilingualism within the institution by adopting strategies and policies that allow for LOTE to have functional space. The paper looks at the strategies adopted to address language problems for staff members and students, but I shall focus on students' problems as they are teaching and learning problems. To a large extent, students that have language related problems are students who speak English as an Additional Language (EAL) in an institution that uses English as medium of instruction. Results of a survey conducted at the institution revealed that black students had a problem with the sole use of English in learning and teaching (Madiba 2010). These students reported difficulties in following lectures, understanding the content presented to them and communicating with lecturers (UCT Strategy and Tactics 2004: 47; cited in Madiba 2010).

As alluded to above, it is mostly students from historically disadvantaged backgrounds that felt the pressure of using English as a sole medium of teaching and learning. These students come from economically disadvantaged backgrounds and attended public schools that are under-resourced and where English language education is not of the highest level as opposed to private and Ex Model C schools. When these students get into university, they struggle because the content is given to them in English and there is no interpreting of that content from English into their first language, as is sometimes the practice in some schools. It must be noted that in many South African and many schools within the continent, language of learning and teaching policy and actual practice are very different. In some schools, the

language of learning and teaching is English but in practice it is English and an African language, teachers teach in English and interpret for their students in their L1 (Obanya 2004; Batibo 2004). At primary and high school levels students are taught in a de facto bilingual system, which unfortunately does not happen at university because the lecturers are normally English/Afrikaans monolingual/bilinguals.

Madiba cites studies like (Bangeni 2001; Bangeni and Kapp 2008) where EAL students voiced their frustration with studying through the medium of English alone. Some of the students thought that the use of English advantages students who speak English as a first language. They also thought that the use of English alone alienated them and made them feel unwelcome within the institution as speakers of languages other than English (Madiba 2010: 336). Studies that were conducted show that students thought highly of English, but these students also acknowledge that English alone makes learning hard for them and would like an opportunity to use their mother tongue as well in learning. Research of this nature is important because it gives a clear indication that EAL students according to their own admission are struggling and would like help through the use of their first home language. This is important because the students speak for themselves about their struggles and what they think can be done to remedy their situation. It also stimulates academics and policy makers to seek policy and practical options that can remedy the situation, as does the present study.

In an effort to respond to the struggles of EAL students UCT has two strategies that it has adopted (Madiba 2010). The first of those is the support and development of English skills of students for whom English is not a first language. English language courses are offered to students who speak English as an additional language and whose English skills are not very high. This strategy means that students will be able to improve their English academic writing skills, but this strategy “risks sustaining the hegemony of English leading to the marginalization of students’ first language” (Madiba 2010: 340). The second strategy adopted by UCT is a multilingual education approach where LOTE are used in teaching and learning together with English. This is called the ‘complementary language use model, where other languages i.e. African languages are used in complementarity with English (Madiba 2010). English remains the medium of instruction, but it is used together with African languages as auxiliary media of instruction, and that can be done through the use of English and other languages side by side, or through code switching, to facilitate a pedagogical process called translanguaging (Madiba 2014). According to Madiba (2010) research into the

complementary language use model by de Kadt (2005) at University of KwaZulu Natal and Dalvit and de Klerk (2005) at Fort Hare shows that this model can be used in South Africa and does benefit LOTE students. The complementary model links directly with what was mentioned earlier about the use of African languages in the lower levels; where English is the medium of instruction, but teachers interpret for students, which means that African languages are used in complementarity with English. The present study takes place at Rhodes University, which is a context that is very similar to UCT, meaning that research like Madiba (2010, 2012, 2014) will act as a theoretical base for the current study, which seeks to take a more practical approach.

Using the complementary model in higher education is important because it gives students a chance to use their primary language to make sense of the material in the same way they did at high school. This bridges the gap between high school and higher education, because as things stand, students who relied on an African language to understand content are expected to sink or swim in an English only ocean. Using an African language together with English does two very important things, it helps students with understanding the material as has been mentioned, and it also makes students feel less alienated. Some of the students mentioned in the UCT studies argued that the university seems to be recognizing the English way of life at the expense of theirs; a tension that can be eased through the use of African languages (Bangeni and Kapp 2008; UCT Strategy and Tactics 2004). In this way a multilingual and multicultural university community where all feel welcome can be created, the first step towards learning in the creation of an environment where effective learning can happen.

Madiba (2011), based on UCT's multilingualism project looks at the use of multilingual glossaries at the UCT to support learning for EAL students. This is done within the context of three factors. The first of these factors is that throughput rates in South African higher education institutions are very low and there is a need to improve these rates. A closer look at the throughput rates shows that there is a big gap between black and white students success in higher education. Various reasons are put forward as contributing factors to this issue, but language is put forward as one of the major contributors to the low success rates of black students (Council for Higher Education, 2007). This is the case because by the time most black African students get to higher education they still have limited proficiency in English which is the medium of instruction of most higher education institutions in South Africa. The second factor is the policies that were put in place to respond to the language question in higher education, and the language needs of the students in higher education institutions,

including the LPHE (2002). Such policies require universities to come up with intervention strategies to aid students; glossaries are part of those strategies (Madiba 2011). Universities are also required to accelerate the development of African languages for use in higher education as medium of instruction, as recommended in the Ministerial Report (2003). The final point is the theoretical and practical debate on the viability of multilingual glossaries as tools to help students understand discipline specific knowledge.

Madiba writes from the perspective of UCT's language policy implementation efforts. The UCT glossaries covered various disciplines in order to provide support for LOTE students and also in order to prove that African languages can indeed be used complementarily with English in any academic discipline. Madiba (2014) further takes up the glossaries project and locates it within the translanguaging paradigm, where students use one language in order to enhance their understanding of the other, with the views to improving both languages. Due to the fact that some scholars do not see the value of using glossaries in higher education, Madiba uses Perkins (2007, 2009) theory of conceptual difficulty. This theory is meant to provide an explanation as to why EAL students struggle with academic concepts, so that proper strategies can be put in place to assist these students understanding exactly why they struggle to understand academic concepts. This theory of conceptual difficulty identifies four causes for students' conceptual difficulties.

The first of those causes is the level of academic development of the student compared with the cognitive demands of the discipline. Madiba also looks at Piaget's learning theories which argue that these student's struggles with concepts stems from a lack of well-developed mental structures, or logical schemata that allow a student the ability to understand content given to them and to learn at a deep level. Unless such students reach a certain level of development, instruction from the outside can never be successful. To counter this Madiba uses Vygotsy (1986) argument that the learning of scientific concepts comes before the development of established logical structures, and also that the development of mental structures is influenced by both internal and sociocultural factors. Based on Vygotsky's argument, Madiba (2011) argues that EAL students' conceptual difficulties can be overcome by direct learning of concepts, taking into account the sociocultural backgrounds of the EAL students. In the context of the EAL students, Piaget's argument is problematic for me in that it has the potential of stigmatizing EAL students as being of a lower mental capacity than other students (cf. Labov 1973). At the same time, Vygotsky (1986) also argues that straightforward learning of concepts proves impossible and fruitless, but I also believe it

might be possible to teach concepts straightforward using these new glossaries. The strength of these glossaries is that they present the concepts in different contexts, which show students more than what the concept means, but also how it can be used. The other very important factor is instruction, as Vygotsky (1986) argued that concepts develop through instruction, therefore, the glossaries could work for EAL students if they are assisted by multilingual lecturers and tutors on how to use the glossaries.

The second cause of conceptual difficulty is the nature of epistemological knowledge, students struggle with knowledge of the different disciplines they come into. Their struggle is based among other things on the fact that epistemological knowledge requires students to think at a higher level, as this knowledge they deal with is more abstract than concrete knowledge they are used to. In this case, direct instruction of concepts seems to be the best way to fast track their immersion into epistemological knowledge. The third issue is the nature of threshold concepts, i.e. those concepts that are very important to any discipline. These concepts allow a student of a particular discipline to have access to the discipline and to the knowledge of the discipline, which makes these concepts very important for a student to learn and understand. The multilingual glossaries will be focus on those threshold concepts to make them accessible to students so that they can learn them explicitly, thereby improving their changes of accessing the discipline. The fourth factor is the role of language in conceptualization. Studies like (Cummins 1979, 2000; cited in Madiba 2011) stress the role of language in conceptualization. The main point made by Cummins (2000) and also Vygotsky (1986) is that it is difficult to learn concepts in a language that one has a limited proficiency in. This is because the person has to deal with the language competence first and then deal with the specialized discipline language in a language they are not proficient (cf. Paxton 2007). Madiba (2010) makes the point that students normally use their first language to access knowledge from a second language but an interesting question in the South African context is whether or not the EAL students do have a high proficiency in their first language in order to access knowledge from English through the first language. This question is explored in this study.

On the use of multilingual glossaries to address the difficulties of EAL students, Madiba (2010) posits that the development of academic concepts requires deep learning and for the student to be able to understand the concept in relation to other concept within the discipline. Corpus-based multilingual glossaries help students develop a high level of thinking and decontextualization and generation skills. The fact that the glossaries put the terms in

multiple contexts gives the student multiple exposures to the term, and that in turn affords the student an opportunity to analyse the term and thereby developing their understanding. Through the analysis of the terms in different contexts, conceptualization of the terms takes place, and that is the deep learning required for the students to have access to the terms. This makes sense and it is important as it gives students a chance to make sense of the concepts on their own, but with the help of the glossary and a lecturer.

The use of African languages in higher education is a topical issue and some scholars see it as a necessary step that must be taken, but the belief is that under the current conditions this is not most ideal. Chief among the scholars who do not believe it is possible to use African languages in higher education is Mesthrie (2008). Mesthrie argues that the use of African languages is necessary, but South Africa does not have the sufficient conditions for the use of African languages in higher education. The argument is that the development of African languages for use in higher education through the development of glossaries and wordlists is not as straightforward as some might think. He also argues that there are a number of practical difficulties that make the use of African languages in higher education at this point impossible and he lists six of those difficulties.

The first of these difficulties according to Mesthrie (2008) is that universities attract students from all over the country and all over the world, as highlighted earlier by the case of Rhodes University (cf. Chapter Five), which means they cannot focus too much attention on local students and the local setting. Secondly, he argues that this push for multilingualism in higher education comes at a time when there are fewer and fewer academic posts available at universities in South Africa and the world. The third difficulty has to do with the fact that universities internationally are treated as businesses and there is constant competition between universities. This competition makes universities focus on competitiveness while focusing on policies that respond to transformation and local needs goes against competitiveness. Even though there are policies that seek to foster multilingualism in higher education, there are elite middle and upper class students who refuse to be taught in African languages in preference of English because of its global strength, which becomes the fourth difficulty. This means universities have the policies, but implementation is problematic because some students resist being taught through African languages. The fifth difficulty is the fact that the same politicians putting pressure on universities to use African languages are not acting exemplary in parliament. With all the resources that parliament has, parliamentarians still mostly use English and Afrikaans to a smaller extent in parliamentary

speeches. The sixth and last point is the failure of statutory bodies such as PanSALB that have been mandated with the promotion of multilingualism, but seem to be far off the mark when it comes to delivering positive results.

Mesthrie further argues that the development of African languages through translation and terminology development is not likely to produce the desired outcome. He argues that transference of meaning from one language to another sometimes proves to be a task that does not give the speakers of the target language the exact meaning of the original term in the source language. The argument is that a term can be borrowed from one language to another, but the concept and what the concept means has to be rooted in the borrowing language for it to make sense. That is what becomes the problem in expanding African languages for use in scientific fields, because “the expertise come from the outside [and are] embedded in another language system” (Mesthrie 2008: 332). The experts who use these terms are speakers of other languages and therefore, cannot be of much assistance in rooting the terms in the language to be expanded since they are monolingual speakers of other languages. Based on the non-availability of first language speakers of African languages who are subject specialists, Mesthrie argues that the creation of equivalent scientific terms for African languages is a “necessary but not sufficient condition” for the development of African languages for use in higher education (Mesthrie 2008: 332).

Mesthrie also uses terminology development during the evangelical missionary period, when English missionaries were preaching in order to convert the Xhosa people as an illustration of the difficulty of terminology development. The new Christian terms that were introduced to the Xhosa people were sometimes not understood exactly what they meant. Some of the Christian concepts in their development were given different names in an effort to precisely identify the concept they were referring to. Some of the terms went through a process where a concept was given three or four terms over a period of many years before they became what they are today. Mesthrie also makes an example of how the word *amandla* ‘force’ does not easily give a student access to the term in physical science. Mesthrie (2008) acknowledges that isiXhosa and many African languages do have the potential to develop into languages of science, but that is something that could happen in the future not now. Mesthrie makes valid points as far as the development of African languages is concerned; indeed there are issues that need to be looked at and strategies devised to deal with them. However, I disagree with some of the issues he brings up. To him it seems as though there is no hope for African

languages as he does not really have positive things to say about African languages in higher education. The paper does not come up with any solutions to the problems that are identified.

There are a number of issues that are overlooked in Mesthrie's argument. One of those issues is that of subject specialists being monolingual speakers of languages other than African languages. This might be true to some extent, but not all subject specialists are only English or Afrikaans speakers, over the past 20 years, South Africa has developed black African language speaking professionals in different fields, and these subject specialists can be roped in to assist in the process of language development. What Mesthrie also overlooks is that those students are also part of the community of subject specialists as demonstrated by Paxton (2007, 2009; Madiba 2012, 2014). Students are already engaging in term creation processes in their tutorial groups and study group discussions, their experiences and creativity should be harnessed to enrich the process of language development. There are various ways through which African languages can be intellectualised, and one of those ways is proposed by Alexander (2003: 30), and that is to grant postgraduate students, in each discipline as part of their course work an opportunity to translate a key document or part of a document into an African language. This will go a long way in the development of the languages as scientific languages and will increase corpora in African languages. Thesis abstracts can also be made available in more African languages, or the thesis can be written in an African language (Alexander 2003).

In reply to the point about the struggles of missionaries to develop terminology, just as Mesthrie puts it, that African languages cannot develop because there are not specialist who speak the languages, the missionaries were not trained linguists, translators or terminology developers. Today African languages have the benefit of linguists, translators and terminologists who speak the African languages they will be developing. What also needs to be clear is that even in the case where there are very few subject specialists who speak African languages; this does not mean the process cannot continue. Terminology development is a specialised field on its own, subject specialist were never going to be able to do it all on their own. There has to be a dialogue between the different stakeholders, subject specialists have to speak with linguists and terminology developers and vice versa. The Ministerial Report (2003: 23) proposes that in the process of language development different institutions of higher learning must each choose a certain area of specialisation to focus on for development. The institutions choice must be based on the expertise they have at their disposal, meaning that a university will look at its human resource and then decide what it

can and cannot do. What has to be understood is that languages develop as they are used and are used as they are developed, as Madiba (2004) argues that form follows function. African languages will not be used as media of instruction overnight, it's a gradual process, but it needs to start somewhere, which is why it is important to open space for African languages in higher education.

Wildsmith-Cromarty (2008) in her paper entitled '*Can academic/scientific discourse really be translated across English and African languages?*' deals with the translation of two curriculum documents from the science and mathematics learning areas, Grade 7-9. This paper, which deals with language at high school was chosen because there is a scarcity of research of this nature that has been conducted, particularly with regard to higher education. The concepts dealt with might be at a lower level of education, but they are still technical discipline specific terms translated into African languages. The documents translated were mathematics and natural sciences curriculum documents. The study looked at the translation of these documents from English to isiZulu, and then the isiZulu translation was translated back to English. The idea was to see how the technical terms would be translated from English to isiZulu and what would happen when the translated terms were translated back to English. To also establish whether the meaning in the source language, (English) would have been conveyed similarly in the target language (isiZulu).

Ten texts were translated into isiZulu by 3 translators and were back-translated to English by two translators. The 3 translators who translated to English were mother tongue speakers of isiZulu and they were professional translators who worked for various government departments and tertiary institutions. The other two who translated back to English were translators who worked in tertiary institutions and were chosen because of their "reasonably high level of proficiency in English" (Wildsmith-Cromarty 2008: 154). Their profile is given in order to show their proficiency and experience in translation. Translators were given questionnaires to fill out as they were translating so as to see the struggles they had to go through when they were translating, especially where grammatical structures of the languages and terminology were concerned.

An analysis of the isiZulu data showed that because of the lack of equivalent terms the isiZulu translations in some cases, the translators would give explanations of the terms which in turn when translated back to English would provide a totally different meaning. For example in the case of translation of the phrase "it may be a true (or geometric) North", this

was translated as “*Kungaba yiqiniso (noma ngokulinganayo) eNyakatho*” (Wildsmith-Cromarty 2008: 152). This was back translated to English as “It could be correct (or of the same size) in the North” and “It can be true (or the same measurement in size) in the North” (Wildsmith-Cromarty 2008: 152). In the back translation it can be noticed that the term “geometric” did not appear and that is because the term was explained or paraphrased in the isiZulu translation. In other cases the core meaning of the concept was missed or shifted to something else as in the case of “conduction” (transfer of heat) which shifted to heating (the process) because the translator used “ukushisa”. This resulted in “the choice of an inappropriate near-synonym (steaming) by the back translator”, the meaning of the concept shifted (Wildsmith-Cromarty 2008: 155). Lastly, terminology was also an issue for example the term population growth one of the translators used “*ukukhula kwabantu*” another said “*ukukhula kwezakhamuzi*”. Both of the translations were not exactly giving the core meaning of the term, the first one is ambiguous as it can either mean growth in numbers or growing in age, and the second one is more emphasizing citizenship than anything (Wildsmith-Cromarty 2008: 157).

Wildsmith-Cromarty’s research shows that the translation of technical/scientific terms is not an easy exercise especially because of the grammatical differences between African languages and English; there are serious differences between the languages. Translations can sometimes mean that the core meaning of concepts is missed, or it is not clear enough. This is problematic because it will create problems for students when they have to know such terms and meanings. This might mean that students get access to explanations of terms rather than the actual terms. In some cases the translations can be ambiguous, which does not do the learner any justice. I think in these cases term creation becomes very important because scientific terms need to be precise and accurate, but for that to happen there needs to be uniformity as far as term creation is concerned, especially looking at the coinage of new terms. It is problematic when different translators have different coined terms. These I believe to be issues that can be dealt with, as argued in response to Mesthrie (2009) above. For most of the translations from English to isiZulu, the translators coined some new terms. The problem with coining terms without standardising them is that there will be duplication of efforts which, in turn, will lead to confusion, and that is what was clear in this study.

The Department of Arts and Culture has published a number of terminology lists, those lists need to be consulted when dealing with terminology. Most of the isiZulu translators used

coinage as a term creation strategy, but there are other strategies that one can use to create terminology and one of those strategies is borrowing. Borrowing might have been the better strategy to use for some of these terms, or the pragmatic approach to borrowing as proposed by Madiba (2008: 64). This approach involves the borrowing of terms from an external source and then for the term to be later indigenized, the indigenization of the term will happen as the speakers of the language are using the term. Languages in use can develop themselves in a bottom up mode, through the speakers of the language. After all, terminology as a study is concerned with the collection, description and presentation of terminology (Sager 1990: 2). There are different strategies that can be applied to terminology development in order to ensure that the terms do not lose their core meanings.

Paxton (2009) writes in response to Mesthrie's view that language development for African languages will not be possible at this point because among other things, subject specialists do not speak an African language. Paxton argues that the development of African languages for use in higher education is something that cannot be overlooked anymore because

... it happens both inside and outside our university classrooms as multilingual university students, in peer learning groups code switch from their primary languages to in order to better understand concepts (Paxton 2009: 345).

Paxton argues here that students are also part of the discipline community and should be considered part of the resources needed for the development of African languages, because they are already engaging in terminology development in order to aid their understanding of the material they deal with. Paxton illustrates this point through research that she conducted at the UCT with economics students from the Commerce Academic Development Programme. The students in the programme were EAL students who mostly came from poorly resourced government schools; these students were put in an extended degree programme.

Paxton argues on the basis of Cummins' (1986) interdependence hypothesis, which has also been reviewed in this chapter. The argument is that there is an interdependent relationship between L1 and L2 that a bilingual person speaks. Even though the two languages may differ in surface structure, when it comes to cognitively demanding tasks the two languages operate through the same processing system. Paxton further argues that because of the fact that most

of the academic concepts of economics have not been translated into African languages, students have not had an opportunity to develop cognitive skills in their L1. Paxton further argues for the need for students to use their first language to negotiate meaning based on Wells' (1999, cited in Paxton 2009) argument that students should use what they know in order to construct meaning. This way, whatever learners learn comes from their personal experience and understanding, knowledge generated in this way cannot be easily forgotten.

In her research, Paxton (2007, 2009) experiments with using code switching in tutorials in order to allow students an opportunity to use their primary language together with English. The students also admitted that in high school, Economics was taught to them through the medium of English, but teachers interpreted for them. This is a point that has been alluded to in this chapter, that most schools language policy is not the same as actual practice. Some of the students admit the difficulty of learning in English and say that "sometimes when they did not understand the English terms, the only solution was to rote learn" (Paxton 2009: 355). This is the type of learning criticized by Vygotsky (1986; Batibo 2004) as it will not fill thought, but memory, which will lead to students that are not open minded, who do not question and produce knowledge but absorb what is given to them. The students also made the point that when they are taught in isiXhosa, they do not forget the information easily, unlike when they are taught only through English.

The students were also given a task where they had to develop Economics concepts from their different primary languages to English. They were all grouped according to the primary languages and asked to discuss the terms and agree on the term they believe to be most suitable for the concept. Some of the struggles the students encountered were around the fact that in some cases African languages do not have a precise term for some of the terms they were dealing with. In such cases, instead of one or two words the students said the translation "gives you a whole paragraph in Xhosa, when it is only one word in English" (Paxton 2007 352). In some cases, because students could not find an equivalent term in their languages they used borrowed words that have become part of their language over time. For example, the Sesotho group used 'ke go shota' [to fall short] in the case of 'deficit'.

A very interesting point was made by one of the students that when they translate from English to isiXhosa they sometimes got even more confused than they were when the information was in English. This statement can be looked at from Cummins (1996, cited in Paxton 2009) distinction between BICS and CALP. It seems, though, that these students have

not developed CALP in their first language, which would explain why they would struggle to comprehend content in the primary language. This is a point that needs to be seriously looked at, because these students speak English as a second language and yet they have not developed CALP in their primary language. Since they are struggling with English as well, this raises questions about the development of CALP in both their primary language and English.

Some of the students in the isiXhosa group struggled with the Economics concept 'deficit'. The source of their struggle had to do with the fact that they understood a deficit to be a loss. These students saw the term 'deficit' and 'loss' to mean the same thing and in isiXhosa the term for both being '*ilahleko*'[loss]. This is, however, not the case because both terms have different isiXhosa terms, i.e. *loss* is '*ilahleko*'[loss] and *deficit* '*intsilelo*'[deficit], one can understand the students' confusion since the isiXhosa term for deficit is not well known by most young speakers of the language. I believe that had the students known the isiXhosa term for deficit, they would have understood the difference between deficit and loss, because loss, which is *ilahleko*, means losing something, whereas *intsilelo* means falling short.

One thing that Paxton demonstrates very clearly in her research is that there is a need for the use of African languages in higher education, and that the intellectualization of the languages cannot be put off any longer. There is also a demonstration that students are already actively engaging in terminology development for African languages in their different areas of study. The very same students, in three to four years' time will be full members of the communities of practice, they must be used as sources for the development of African languages while they are students and even beyond. Paxton's study and findings fit into the concept of translanguaging, which is the receiving of impute in one language and applying it in another language (Madiba 2012, 2014; Hibbert and van der Walt 2014). Hibbert and van der Walt (2014) further argue that it is imperative that for teaching staff and policy makers at higher education institutions to understand that students will use these translanguaging practises whether they are sanctioned or not. That is simply because these are mechanism that are by the students for the students and they make sense to the students. What should happen, learning approaches like translanguaging, which are created by students should be given official recognition in order to make language a resource. The point about making language a resource is very important for African languages, the sooner African languages are seen as resources the better for their development because they will be more functional.

At Rhodes University, most of the work that has been done in the implementation of multilingualism starts with the South Africa Norway Tertiary Education Development (SANTED) 2005-2009. The SANTED project was a joint venture between South African higher education institutions and the Norwegian government and was hosted by Rhodes University's African Languages Department. The project had three main goals, first of which was the promotion of multilingualism through L2 teaching in the Faculties of Pharmacy and Law, secondly to develop bilingual materials that will help to facilitate learning for previously marginalized people and third, to promote research on multilingualism on these areas (Kaschula et al 2009: 45). It is the second goal that is of particular interest for this study, because it directly relates to the current study.

Out of the SANTED project came a glossary of Computer Science terminology, which was developed in order to support students for whom English is an L2. This glossary was meant to support English L2 speakers of English doing Computer Science in order to keep those students in the system and give them access to epistemic knowledge through the use of isiXhosa. Maseko (2014) also points out that a glossary for Political Studies and Geography was also compiled during the SANTED project with the same goal of supporting students for whom English is a second language. Maseko (2014) further argues that the project succeeded in promoting and strengthening the use of isiXhosa alongside English, which created an environment where previously marginalized languages were seen as useful and valuable. Maseko's argument about the formerly marginalized languages being seen as useful is important and is in line with Madiba (2014; Hibbert and van der Walt 2014) argument about LOTE being seen as resources. It is high time that policy makers and those sceptical academics understood that things are already happening quickly as far as students' usage of language in formal and informal learning situation. The time has come for institutions to recognize what is happening and embrace LOTE as resources for the improvement of success rates of LOTE students.

Dalvit et al (2005) took a more hands on approach to the Computer Sciences language research by investigating what is happening in the extended programme of the course. They found out that L2 speakers of English relied on each other for explanations during classes and those conversations happened through their home languages, which were always an African language. These students also struggled to understand follow instructions, which clearly showed that language was an issue for the students. Dalvit et al (2005) also found out that students struggled with Computer Science terminology and terminology that can be

considered common terminology like *browser* or *dragging*. There were some interventions implemented in order to assist these students, one of the interventions implemented was a chat room feature that allowed students to talk to and help each other during class in any language they wished to do so. The second strategy was an online glossary feature, which allowed students access to explanations of terms in technical and simple English, as well as in various African languages. Students also had an opportunity to develop explanations for those terms that were did not have one in their mother tongue; this was done under the supervision of a tutor or lecturer.

Just as Paxton argues that African languages are being developed by students in their tutorial and study groups, Alexander (2003) argues for the need to use African languages in higher education looking at the issue from an educational and sociolinguistic perspective. Alexander argues that we find ourselves in the position we are today, where English dominates the world because colonial conquest and globalisation have created a hierarchy of standard languages (Alexander 2003: 5). At the top of this hierarchy is the English language, and the status of the language is threatening multilingualism in the world over to the point of the marginalization, stigmatization and extinction of many languages. This hegemony of the English language mirrors the political and social relations in the world at the present moment. The current state of affairs necessitates a change of direction in order to help people who are “held down by their ruling elites’ de facto abandonment of the principle of equity in favour of self-aggrandizement and convenience” (Alexander 2003: 6). The current state of affairs where English acts as a barrier to success for the majority of the people is benefiting a minority of the society, and that minority is doing its best to cling on to those benefits. The hegemony of English as has been the case in South Africa for many years now, has created a situation where English has become the language of the economy and upward social mobility. This social mobility is really accessible to a particular section of society as Mclean (1992: 151) writes that:

[T]he middle class speaks differently from the working class, the middle class code is valued, access to this code is valued by class features and the working class is consequently disadvantaged.

Mclean’s point here is very significant for higher education because working class students are disadvantaged the minute they walk into the university’s gates, simply because they did not get a chance to be educated in the middle class code. They did not get a chance because

they went to government schools where they did not get good English language teaching, which disadvantages them in higher education. If they do get a place at university, in most cases it is through an extended degree programme, meaning they fall behind their middle class peers and then they have to struggle to succeed in an English dominated higher education. This is why Mclean argues that English “acts as a class barrier, thereby helping to maintain current class relations”, thereby making it vitally important to deal with the source of the maintenance of these class barriers (Mclean 1992: 159).

Alexander (2003) also argues that an English second language based education system will not lead to a quality education and academic excellence for all, the idea that it will is nothing but foolishness. The fact is that the majority of the South African and African population speak an African language as their primary language and their access to English is limited. The fact that African languages are not used in education, especially in higher education in the African continent is playing a significant role in the underdevelopment of the African continent (cf. Bamgbose 1991). This is totally different to what happened and is happening in Asia, where local languages have been developed for use in controlling domains, which has allowed the continent to be a major role player in research and technology. This is something that the African continent can learn from Asian countries, that the local languages should be used as a resource in order to give everybody a chance to be active participants in the economy through the use of local languages in education, business and politics. This is a point made by Bamgbose (1991) as well when he argues that literacy rates in Africa are low because of the fact that African countries have emphasized the eradication of literacy through the former colonial languages and all the attempts they have made have been complete failures. Bamgbose (1991), like Alexander (2003), establishes a link between low literacy rates with the language used in education and the low literacy rates are connected with economic underdevelopment. This obviously does not mean the use of African languages in education will solve all South African and African education and economic problems, but it looks to be a significant part of the solution.

Tertiary education is a level where students are supposed to engage with, question and produce new knowledge, but that cannot happen is a situation where students struggle with the language of learning and teaching as has been demonstrated by, among others, Paxton (2007, 2009). This is not only happening in South Africa but in other African countries as well. Batibo (2004) reports that in countries like Tanzania, Kenya and Zambia, university students' English proficiency is so low that students rely on memorization and duplication of

notes to get by. This is similar to what some of Paxton's subjects revealed about the fact that they relied on memorizing content that is delivered to them through English because that was the only way they could survive at university. Learning in this manner will not "produce articulate, assertive and skilled future citizens, but unskilled initiative lacking and memory oriented one's" because for them learning means reproducing other people's ideas and not creating something original (Batibo 2004: 30). It is findings such as that make the case for mother tongue based bilingual education valid, because an English only education system is not benefiting everybody it should be benefiting. Education should enrich the lives of students with knowledge and in turn, the students must produce new knowledge for the benefit of society and state development. Batibo (2010) argues that none of the industrialized countries in the world achieved their development through the strength of a foreign language, but Africa is still pursuing development through foreign languages. If we are to see development and progress in South Africa and the rest of the African continent it is important that African languages are used in education in order to educate and skill the African people.

### **3.5 Conclusion**

This chapter has demonstrated the relationship between language and learning and the role that the first language plays or should play in the process of imparting knowledge to a student. The literature has demonstrated the importance of a bilingual student's mother tongue in education. The level of the development of the mother tongue is associated with the level of the acquisition of a second language. This highlights the importance of developing the mother tongue before switching to a second language. Studies suggest that there might be threshold levels of literacy in both languages that a student must reach in order to avoid cognitive disadvantages. This means that there should be an emphasis on both languages, not simply a focus on the second language on the basis that the student speaks the first language at home. Speaking the language at home and learning the language are two different contexts that require different levels of development. The mother tongue has to be learnt by the student, both as a subject at school and it is also important that the language is used as a medium of instruction at school. The use of the mother tongue at school has both cognitive and psychological advantages for the child. The mother tongue is a language that the child can easily understand and its use a medium of instruction creates an environment where learning can occur as the child engages in learning confidently. This chapter further

demonstrated the need to use African languages in higher education because a lot of students who speak English as a second language are struggling to cope with an English only higher education environment. Using African languages to support learning in higher education seems to be a very important tool in an effort to support EAL students, which is likely to improve access and success for previously disadvantaged students in higher education. The importance of the mother tongue as argued by the literature sighted in this chapter will be even clearer when the data is presented and discussed in the following chapters. Students will speak for themselves about their struggles with the second language (English) and how they believe the mother tongue could help them do better in their studies. The next chapter will deal with the presentation of the collected data.

## **CHAPTER FOUR**

### **METHODOLOGY**

#### **4.1 Introduction**

This chapter details the methodology of this study, outlining the steps that were taken in the process of the collection and analysis of data and providing a justification for all the methodological procedures. The discussion of these methodological procedures is linked to literature and scholarship on research methods. Including this introductory section, the chapter is divided into four sections. Section 4.2 deals with the research design of the study, indicating how and why the chosen design was considered the most appropriate for the study, notwithstanding its weaknesses that are also highlighted and the procedures that were adopted to alleviate them. Section 4.3 deals with the research participants, profiling them and indicating their appropriateness for the present study and the criteria that were used to sample them. Section 4.4 discusses data collection instruments and the data collection process. It describes each data collection instrument and explains the reasons why the instrument was the best in the view of the kinds of data that were to be collected and the goals that were being pursued in the study. The final section deals with the procedure that will be followed in the analysis of the collected data.

#### **4.2 Research design: a case study of cell biology module**

This study was designed as a single case study. According to Yin (1993: 13), a case study is “an empirical study that investigates a contemporary phenomenon within its real-life context”. The case study was chosen because the researcher wanted to conduct an in-depth study in a specific subject area and probe the use of mother tongue for those students who have indigenous African languages as mother tongue, to support learning in this module whose default medium of teaching and learning is English, as is the case with most of modules at Rhodes and other South African universities.

In the present study, the phenomenon that was being probed is how Rhodes University’s language policy influences teaching and learning practice in the Cell Biology module (for module description see Section 1.4). This module is a case study of language use within

formal and non-formal academic contexts at Rhodes University. It is also a case study of the implementation of multilingualism at an institutional level following the adoption of a trilingual institutional language policy in 2005 and its 2014 revision, which was launched in 2014 (see Section 2.13). Notwithstanding possible disciplinary differences, for example, between natural and social sciences, as well as the different student and staff composition particularly along linguistic lines, the knowledge of language use that is generated through a thorough case study of Cell Biology is hoped to have provided generalizable insights into language use in both formal and non-formal academic context at Rhodes University.

At another level, Rhodes University itself may also be considered a case study of the implementation of institutional language policies at South African universities following the adoption of the Language Policy for Higher Education (LPHE) in 2002 (see Section 2.13). The formulation of institutional language policies that promote multilingualism as a learning resource and indigenous African languages as academic languages is, therefore, a legislative imperative that has been embraced by a majority of South African universities. The findings of this study can, to a large extent, allow generalisation of language use in similar conditions like other historically white institutions that are in the process of transforming and accepting more LOTE students than it was the case in the past.

The goal of this research is to investigate the use of LOTE in learning contexts by Cell Biology students and interrogating contexts in which they used them, and the motivations behind the use thereof. This research presupposed that LOTE students use LOTE based on the findings of the researcher's Honours research paper (Gambushe 2012), which discovered that LOTE students in the Sociology and Politics Extended Studies lectures and students in the Physics and Electronics practical sessions used LOTE in learning contexts. The present study also sought to determine the linguistic capabilities of the Cell Biology LOTE students in their mother tongue. This research also sought to first investigate the use of the mother tongue by students in the Cell Biology module and, based on that, investigate the extent to which that use facilitates learning.

The case study design was chosen because it would allow the researcher the ability to probe without controlling the variables and allowing things to unfold in a real life situation. One of the strengths of case study research according to Thomas (2011) is that a case study gives one a rich picture of the phenomenon being investigated, as well as the fact that it can afford a

researcher an opportunity to conduct an intensive study of a particular case. According to Adelman et al (1980 cited in Cohen et al 2007: 256), case studies are advantageous in that:

[c]ase study data, paradoxically are ‘strong in reality’ ... This strength in reality is because case studies are down to earth and attention holding, in harmony with the reader’s experience. Case studies are a ‘step to action’. They begin in a world of action and contribute to it.

Studies that have to do with human affairs are based in the real world and in a particular context, and the best way to investigate is to come down to the level of that particular reality and context. This study took an in-depth look at students speaking LOTE, in a particular context, which was the Cell Biology module in the Botany and Biological Sciences Departments at Rhodes University. It was, therefore, important to adopt a research design that would provide in-depth down to earth data, in that particular context and within a relatively short period, in the investigation of this particular phenomenon. Otherwise an extensive study would have required more time, which would be impossible given the limited time within which the research had to be conducted and written up.

Thomas (2011) indemnifies 15 types of case studies, of which two are directly related to the current study. These are the evaluative and exploratory case studies. The evaluative case study is defined as a study framed by the idea that one conducts research in order to see how well something that has been implemented is working, or how well it has worked over a certain period of time (Thomas 2011: 103). This type of case study is conducted when a change has been implemented in policy and practice. The evaluative case study seeks to investigate whether there has been a change since the implementation of the policy or practice. This type of case study directly relates to the current study which looks at Rhodes language policy and how it affects language use and practices in the teaching and learning of Cell Biology. The end result of this research will be an evaluation of Rhodes language policy within the Cell Biology context, how it has been implemented and what needs to be done to implement it effectively based on the reality that obtains in the context of the Cell Biology module. The main aim of this case study was that upon the completion of the study, policies could be influenced by determining what is happening in the Cell Biology context, and make recommendations about the implementation of multilingualism, so that it can be done effectively and differently if there is a need to do so.

The exploratory case study, on the other hand, is the type where as a researcher “you want to know more: what is happening and why” what is happening is happening (Thomas 2011: 104). This case study seeks to explore a phenomenon that is not understood as yet and asks a variety of question like *what, why, how* in an effort to try and gain an understanding of the phenomenon. According to Babbie et al (2001: 80), one of the major advantages of exploratory case studies is that they are best used when a researcher seeks to break new ground and investigate a phenomenon that has yet to be explored and “can almost always yield new insights into a topic for research”. Another advantageous aspect about exploratory studies is the fact that they are typically used to develop new hypothesis about a particular phenomenon. This was important in the context of this research, because the researcher sought to develop new insights and hypothesis about the performance of LOTE students in Cell Biology and how they can be supported through the use of their mother tongue.

In the context of the current study, both the evaluative and exploratory cases were relevant as the researcher was exploring the use of African languages to aid learning in the Cell Biology module. The researcher also evaluated the extent to which the use of an African language to support learning could benefit the students learning Cell Biology. All of this is guided by the university’s language policy, which recognises multilingualism at Rhodes, in the Eastern Cape and South Africa at large. This is why it was important for both exploration and evaluation to happen in the course of conducting this study. The study broadly sought to evaluate how the university’s language policy influences teaching and learning practices, in order for the policy to influence practices and conditions that have to be created for the use of LOTE in learning. That could not easily be achieved without the use of a case study, both evaluative and exploratory, given the size of the university against the period within which an MA study has to be conducted. However, all this had to be done in full awareness of certain weaknesses of case studies.

#### **4.2.1 Weaknesses of case studies**

The main weakness of the case study design is that one cannot easily and always generalize on the basis of one case study. That is because a case study is conducted within a particular environment and context, which makes it hard to generalize and argue that the phenomenon can happen or happens the same way in a different context. According to Hua and David (2011: 102), “findings from a case study are in most cases tentative and subject to individual

variations” and this makes generalizing from case studies sometimes difficult and even risky. Woodside and Wilson (1989: 500) bring the issue of a sample to their argument when they state that:

Case study research results are not generalizable to a population, the particular case included in a given case study is so unique that it represents a one off context.

The other weakness of doing case study research is the susceptibility of the research findings to researcher bias. In the context of this study, the researcher being an isiXhosa speaker who identifies with the isiXhosa and other LOTE speakers, who also has a passion for the development of African languages, there is always the possibility of bias. This possible bias arises against the backdrop of a South African history that systematically disadvantaged the black African language speaking population. As a scholar, the researcher, therefore, has a responsibility to play a role in the transformation of society, which creates the possibility for bias. According to Hua and David (2011), it is sometimes difficult for a researcher to stay detached from the research, especially when he/she spends a lot of time with the research participants. In the context of this research, the researcher did not spend a lot of time with particular research participants, observations were carried out on a large number of participants and interviews were also conducted with participants on a once off basis. There are other studies and publications that will be discussed in the next chapter, which address similar issues to those dealt with in this study that have been published by scholars such as Paxton (2007, 2009; Madiba 2010, 2011, 2012, 2014; Bangeni and Kapp 2008; CHE 2007). All of these studies deal with language and learning in higher education and demonstrate that indeed there is a problem with regards to the use of English alone in higher education, also showing the need for the use of African languages to support learning for African languages speakers.

This study is concerned with language and education, but above all, it is a study that deals with human subjects as they relate to language and education. The fact that this study deals with human affairs means that we cannot ignore the fact that issues that deal with human affairs are context embedded. According to Flyvbjerg (2006: 221):

...the case study produces the type of context-dependent knowledge that research on learning shows to be necessary to allow people to move from rule

based beginners to virtuoso experts. Second, in the study of human affairs, there appears to exist only context-dependent knowledge.

Flyvbjerg makes the point that studies that have to do with human beings are meant to be context embedded because human beings live in the real world and the surrounding context influences what can be learnt from humans. Therefore, what we learn is bound to be influenced by the context. The influence of context upon case study data, therefore, does not mean we should dismiss case study data since most human knowledge is, in any case, context-dependent. What we should be focusing on, rather, is the extent to which we can generalize upon this context depended-knowledge we find from studies in human affairs. In the context of this study, the findings of the research can be generalized to the extent that the subjects of the study were LOTE speaking students in South African higher education. Though this study dealt with a small number of students -those in the Cell Biology module- the situation that LOTE speaking students in the Cell Biology module find themselves is not limited to the Botany and Biological Sciences Departments or Rhodes University. LOTE speaking students, especially those who have African languages as mother tongue struggle to cope at universities across the country because of the language of teaching and learning (Madiba 2010, 2012; Paxton 2007, 2009; Bangeni and Kapp 2008; Scott et al 2007). At school level, some of these students might have been taught through the medium of English, but with the help from teachers through the mother tongue in order to aid understanding (Obanya 2004; Barkhuizen 2002). When they get to university, they do not get the same benefit of the use of the mother tongue to support their learning, and this puts a lot of pressure on them as demonstrated by studies conducted by among others Madiba (2010, 2012; Paxton 2007, 2009; Gambushe 2012). This, therefore, means that that the findings of this study will not be limited to the context that was investigated. The fact that the module is taken by BPharm students is an added advantage because it widens the scope of this research somewhat because this way the reader can catch a glimpse into both the BSc and BPharm LOTE speaking students. This is important because it takes widens the generalizability of this study to other modules that some of the research participants were taking.

### **4.3 Research participants**

Different categories of participants were targeted for this study. Initially, all Cell Biology students were targeted for the questionnaire survey. The sampling approach that was

employed for the questionnaire was random sampling; which is a process that involves the random selection of participants; all the participants are randomly selected as representatives of a population (Baker 1988; Silverman 2010). The questionnaire survey targeted all the students because all of them had schooling and language backgrounds that were of interest for this research in order to provide a clear picture of the schooling and language composition of the class.

After the survey, the focus changed to LOTE, particularly isiXhosa speaking students for interviews. For this stage of data collection and subsequent stages the type of sampling used was purposive sampling, which is described by Silverman (2010) as a situation where a researcher chooses a particular setting or group of people because of the information that these particular people or groups can provide. IsiXhosa speaking students were targeted because of the university's language policy, which recognises isiXhosa as the language to be developed and considered for teaching and learning alongside English. Therefore, this research targeted African language speaking students who come from previously disadvantaged schools. These students were targeted because they fall into the category of students who are at risk of not succeeding in higher education because of a range of factors, one of which is language (Scott et al 2007). These students come into higher education, which is a different learning environment as it is an independent learning environment where a student is expected to be more independent in their approach to the work. This goes against what some LOTE students from poorer schooling backgrounds are used where teachers are compelled to do more for students because of the lack of resources. For these students, an institution like Rhodes University poses a challenge with the sole medium of instruction being English, given that the students would have previously received home language support from the teacher.

The other category of participants were English and LOTE speaking demonstrators who were also targeted for interviews, as they are the people who interact with students for almost 3 hours during the practical sessions. Demonstrators constitute a very important part of the teaching staff in the module, because they interact with students more intimately than lecturers do. Demonstrators/tutors deal with students in small group situation where students are supposed to ask all the questions they are struggling with, which they cannot easily do in class perhaps because of the limited time there is during classes. This is why the views and opinions of demonstrators were considered valuable for this study.

Finally, both mainstream and Extended Studies lecturers were also targeted as they planned, taught and marked scripts in the module. By Extended Studies lecturer the researcher refers to the lecturer who teaches the Extended Studies students who were doing cell Biology. The Extend Studies students programme is a programme that was set up to provide alternative entry to Rhodes University for students who do not meet the requirements. These students are given an opportunity based on potential rather than results as opposed to the main stream students. All of these lecturers were important because they had insights about the module about how students were assigned to the benches they worked from, and how demonstrators are hired.

#### **4.4 Instruments for data collection**

Within a case study research design, there are multiple tools that a researcher can use to elicit data, for example, questionnaires, interviews, focus group interviews and tests. All of these different techniques can allow a researcher to see the issue being investigated from many different angles, which is why “a case study is able to provide rich and in-depth data on the behaviour of an individual or small group” (Hua & David 2008: 99). Case studies generally use various data collection techniques and those that were employed in this particular case study are discussed in the subsequent subsections.

##### **4.4.1 Annual Cell Biology performance and linguistic data (2002-2013)**

The preliminary data for this study was collected from Cell Biology and consisted of statistics reflecting students’ marks from the module between 2002 and 2013), their home language, and their grades for HL and English for the Matric/National Senior Certificate/Grade 12 Certificate. The purpose of this data was to look at the marks achieved by English L1 and LOTE speaking students. Going back to 2002 allowed for the data to reflect four graduation cycles; which allowed a reliable analysis over a number of cycles.

The data was accessed through the Data Management Unit (DMU), which records and keeps such data on student population at RU. The researcher requested it through email. The response from the DMU was positive, although the data could only be released with the permission from the office of the Registrar. An email was sent to the office of the Registrar

outlining the proposed study, its objectives and how the requested data would be vital for the study. The office of the Registrar approved the researcher's access to the data. This data was important because it would make it possible to determine if there is a difference in success rates between English and LOTE students doing Cell Biology.

#### **4.4.2 Participant observation**

Participant observation falls within ethnographic data collection techniques (Tedlock 1991). According to Fatterman (2010: 1), "ethnography gives people voice within their local context". This is what makes participant observation very important. Participants are left to do what they would do in their normal everyday environment and this allows them to be heard in a normal environment that they are used to. From a research perspective, this provides rich data, depending on how well the researcher records and captures the observations. In the context of this study, the issue of environment was important because this was a first year first semester module. All the students were coming into a new environment in which they had to adjust and acclimatise. Brayman (2012: 270) argues that participant observation as a data collection tool is advantageous in that it allows participant behaviour to be directly observed. The purpose of the observations, whereby the researcher was a non-participant, was to elicit empirical first-hand data about contexts where LOTE were used by Cell Biology students and for him to make deductions about possible motivations for their use. As a non-participant observer, the researcher simply observed and did not take part in, or influence what was happening, because a non-participant observer "observes, but does not take part in what is going on in" the particular setting (Brayman 2012: 173).

Language use in the Cell Biology first year classes, tutorials/practical sessions were observed over the first term of the first semester. The observed participants were students, demonstrators and lecturers. The observations focussed on the interaction between students and lecturers, students and tutors/demonstrators, as well as interactions among students themselves. The researcher took detailed and systematic field notes on language use and particularly the use of LOTE during the observation period. Practical sessions were of particular interest because this is where students seemed to get an opportunity to be comfortable and to talk more with each other. When students with LOTE as their mother tongue are engaging in a tutorial/practical exercises there is always the possibility that they

would use LOTE, which is why tutorial/practical periods were important to observe. Tutorial and practical sessions present a more relaxed environment where students can be comfortable to talk to each other in any language they choose to talk about the subject matter. Lectures were more formal and lecturer-centred. In that context the lecturer did most of the talking, and that happened only in English.

Participant observations started on the first week of the first semester. The researcher attended and observed mainstream Cell Biology classes and practical sessions. There were four mainstream classes that took place each week between Monday and Thursday, 20 classes were observed over the period. There were also three practical sessions a week which took place on Monday, Thursday and Friday across four venues. There were in all 12 practical sessions per week and 54 sessions were observed. Due to the distance between the venues where the practical sessions were taking place, the researcher observed nine per week, as those were in the same building. Extended Studies classes were also attended for four weeks, in all 4 classes were observed. The data that was collected through participant observation is presented on Chapter Four and is analysed on Chapter Five.

#### **4.4.3 Questionnaire survey**

A questionnaire about the students' schooling histories and language-related issues was administered in the whole Cell Biology class (refer to appendix A). The idea was that the questionnaire would make it possible to collect data from a large number of students at the same time, because a "survey allows researchers to organise data collection when the number of potential respondents is very high" Schlee (2014: 43). Cohen et al (2007: 256) states that:

Typically, surveys gather data at a particular point in time with the intention of describing the nature of existing conditions, or identifying standards against which existing conditions can be compared, or determining the relationship that exists between specific events.

The use of a questionnaire for this study had to do with the issues that Schlee (2014) and Cohen (2007) raise, i.e. the researcher needed to collect data from a large group of students, about 370 students altogether. The questionnaires were meant to provide data that would make it possible to understand the schooling backgrounds of the students in order to determine, among other things, if there is a relationship between linguistic and schooling

backgrounds and the level of achievement as demonstrated by the Cell Biology data obtained from the DMU. The questionnaire targeted all the Cell Biology students and it was distributed in one of the lectures and all the students who attended the class were given a questionnaire to fill in.

The questionnaire was administered on the 5<sup>th</sup> of March 2014 at the end of one of the mainstream classes. Students were encouraged to fill in the questionnaire during the last ten minutes of the class and submit it as they leave the lecture venue. A number of students submitted completed questionnaires on their way out, but the number was low as some decided to take the questionnaire home. A large number of students brought the questionnaires back in class the following day. The lecturer kept encouraging the students to fill in and return the questionnaire for two weeks. In the end 226 students filled in the questionnaire from 350 Cell Biology students. The data that was collected using questionnaires was too large to be presented in its totality, but it was, however, used in Chapter Five in order to respond to certain questions and themes that arise out of the data. The disadvantage with questionnaire surveys is always the fact that there are certain questions that cannot be fully explored by means of a questionnaire alone, which is where interviews come in handy and complement the survey because through interviews one is able to follow up on some issues that emerged from the survey and is also able to go beyond and probe other issues.

#### **4.4.4 Language proficiency exercise**

A language proficiency exercise was administered to LOTE L1 students in the Extended Studies class in order to evaluate their language proficiency in their L1 and determine if the students could function in a coherent manner in their L1. The students were asked a question, and were asked to respond to the question in their home language. This was done towards the end of one of the Extended Studies classes. The idea for this exercise was that it should not be an exercise that will require students to study for, which would have created pressure for the students on top of their academic work. The question that was put to the students went as follows:

*You have been studying Cell Biology for the past seven weeks. Write down in no more than a paragraph in your **HOME LANGUAGE***

*anything you have learnt up to this point about Cells. What helps you most in learning, what helps you least? What do you think would help in you learning even better?*

This exercise was designed in such a manner that allows students a broad scope for their discussion so that they could capture any aspect of cells that they could remember and, on the basis of what they wrote, assess their linguistic capabilities in their home language. The idea was to test if they could write and explain what they had learnt and what they understood about what was taught to them in their mother-tongue. The researcher looked at their communication ability in the home language and their construction of sentences including their grammar abilities. This exercise targeted the Cell Biology Extended Studies students. These students were targeted because they would be easier to manage as they make up a smaller group than the whole of the Cell Biology class.

The competency exercise was administered to Extended Studies students during the second term of the first semester. Initially, the plan was to administer the test during the first term of the first semester, but due to a number of changes in the time when the Extended Studies students met, it was thought best to administer the test during the second semester. This data is also presented in the next chapter with examples of some of the writings of the students who took part in the exercise.

#### **4.4.5 Interviews**

Participant interviews were another data collection instrument that was used for this study. According to Seidman (1998) the fundamental reason behind conducting an interview is an interest in understanding other people's experiences and the meaning they make from those experiences. Cohen et al (2011: 409) argues that interviews allow participants an opportunity to express their own interpretation of the world they live in and how they regard their situations from their own perspective. Kvale (1996: 14 cited in Cohen 2007) sees an interview as an inter-view, meaning that it is an exchange of views between two or more people about a certain topic that interests both parties. The interviewer seeks to understand what the interviewee thinks about the experiences and what they make of those experiences. The interview as a data collection instrument complements questionnaire surveys because it

is able to get answers to questions that might prove difficult in a questionnaire. It also allows a researcher to follow up on issues that might have stood out in the questionnaire.

For the interviews, the researcher targeted isiXhosa and isiZulu speaking students that were observed using these languages during practical sessions. The plan was to ask them questions around their usage of their home languages and the motivations for this usage (refer to Appendix E for questions). All of the LOTE speaking demonstrators were also targeted, but only two availed themselves for the interview.

Interviews were also conducted with four out of six English-speaking demonstrators as the other two could not make themselves available due to time-constraints. Three lecturers were also interviewed. These lecturers were the most involved lecturers in the module and that is why they were earmarked for interviews. One taught and co-ordinated the module, another had taught part of the module for a number of years, and the third taught the Extended Studies students. The interviews were meant to determine all of the role players' thoughts about issues of language and learning as is reflected by the questions (refer to Appendix B and C). This was an opportunity for the role players to give their own thoughts and opinions about various issues around language and learning in higher education from their own perspective.

These interviews started on the 15<sup>th</sup> of May 2014 and ended on the 6<sup>th</sup> of June 2014. During that time students, lecturers and demonstrators were interviewed on a number of topics ranging from whether students used LOTE in learning situations and why they used LOTE if they used them. Lecturers were asked about their thoughts on the use of LOTE in teaching and learning and what they thought could be done to better support LOTE students. Demonstrators were asked whether they thought students for whom English is an additional language found it easy to ask for assistance from English monolingual demonstrators. For more on the questions and themes dealt with, the reader is referred to the appendices section.

#### **4.5 Data Analysis Procedure**

As discussed above, the data was collected using a number of data collection tools meant to get data that would respond to the research goals. The Cell Biology statistical data was collected in order to determine the differences in achievement rates along language lines. The idea with this data was to explore whether there was a difference between LOTE students and

English students marks and to determine the margin of the difference between the two, based on the average marks that both sets of students achieved in the chosen period. The procedure for analysis of the observations data follows from the goal of determining who uses LOTE where are they used. The main observations from the field notes will be extracted and analysed in order to determine who used LOTE and where they used LOTE. A questionnaire survey was distributed in order to target all the students in the module and to get a general idea about the student profiles of the Cell Biology module. This data was analysed by looking at linguistic and schooling backgrounds of the students in order to build a profile of the types of students who take the module. The language proficiency exercise was designed to determine the language proficiency of LOTE students in their home language. During the analysis, two things were looked at on the data that was collected, the first thing being sentence construction and secondly the communicative ability displayed by their writing. Interviews probed more issues around the use of LOTE in teaching and learning from students demonstrators and lecturers. The data collected from interviews was, together with all the other data collected, collated and thematically arranged in order for similar themes that emerge from different collection methods be analysed and discussed together.

#### **4.6 Conclusion**

This chapter outlined the methodology that was adopted in the course of data collection for this research. It was explained what design will be adopted and the strengths and weaknesses of the case study as the design that has been chosen. It was also explained who were the participants that were earmarked for this study and why they were important role players. These role players were students, lecturers and demonstrators in the Cell Biology module. The instruments that were used to collect data were explained and the process that was taken to use them was also explained. The main instruments for data collection were participant observation, participant interviews, a language competency exercise and the Cell Biology marks data, which was collected from the DMU. The next chapter deals with the presentation of the data that was collected using the methods that have been discussed in this chapter.

## **CHAPTER FIVE**

### **DATA PRESENTATION**

#### **5.1 Introduction**

This chapter deals with the presentation and description of the collected and captured data on the basis of which the research questions of the study are addressed. The data will be presented according to themes that stand out from the data that was collected using different data collection methods that were outlined in Chapter Four. Relevant thematic data has been extracted from each data collection method and presented under a single theme. The reader will also be given insight into some of the data that could not be presented in full in this chapter due to space constraints. Such data is captured and presented in a comprehensive manner in the appendices, which are always referred to where appropriate. The data will be presented under the following themes:

- Cell biology marks over 10 years: LOTE versus English students marks
- Linguistic composition of the Cell Biology class
- The use of African languages in teaching and learning situations
- Perceptions of role players about the use of LOTE in teaching and learning
- Learning support materials
- Demonstrators
- LOTE students' capabilities in their home language

The data related to these themes are presented and described in the subsequent sections (Sections 5.2 to 5.9, before the chapter summary in Section 5.10).

#### **5.2 Cell Biology marks over 10 years: LOTE versus English students marks**

This data on Cell Biology students between the years 2003 and 2013 was collected from the Data Management Unit. It includes marks obtained, the home language of the students, the

level at which English was studied at high school, the matric English marks and time taken to complete degree against the minimum time that is required to complete the degree. The main area of interest in this data was the comparison of marks between LOTE and English speaking students over that ten-year period. This preliminary data gave a picture of the performance of Cell Biology module students in relation to their linguistic and educational background as it relates to the language of teaching and learning. The ten years also made it possible to look at patterns over three graduation cycles for BSc students.

**Table 1 below shows the average marks of LOTE and English students between 2003 and 2013.**

**Table 1**

	HOME LANGUAGE	N	Mean	Std. Deviation	Std. Error Mean
CELL_BIO MARK	LOTE	937	56.42	11.212	.366
	ENGLISH	1397	60.56	11.104	.297

From the table, it is clear that there is a significant difference in the average Cell Biology marks between LOTE and ENGLISH students ( $t = 8.79$ ,  $df = 2332$ ,  $p < 0.0001$ ). The average mark in Cell Biology for the LOTE group is significantly lower than that of the ENGLISH group at the 5% level of significance.

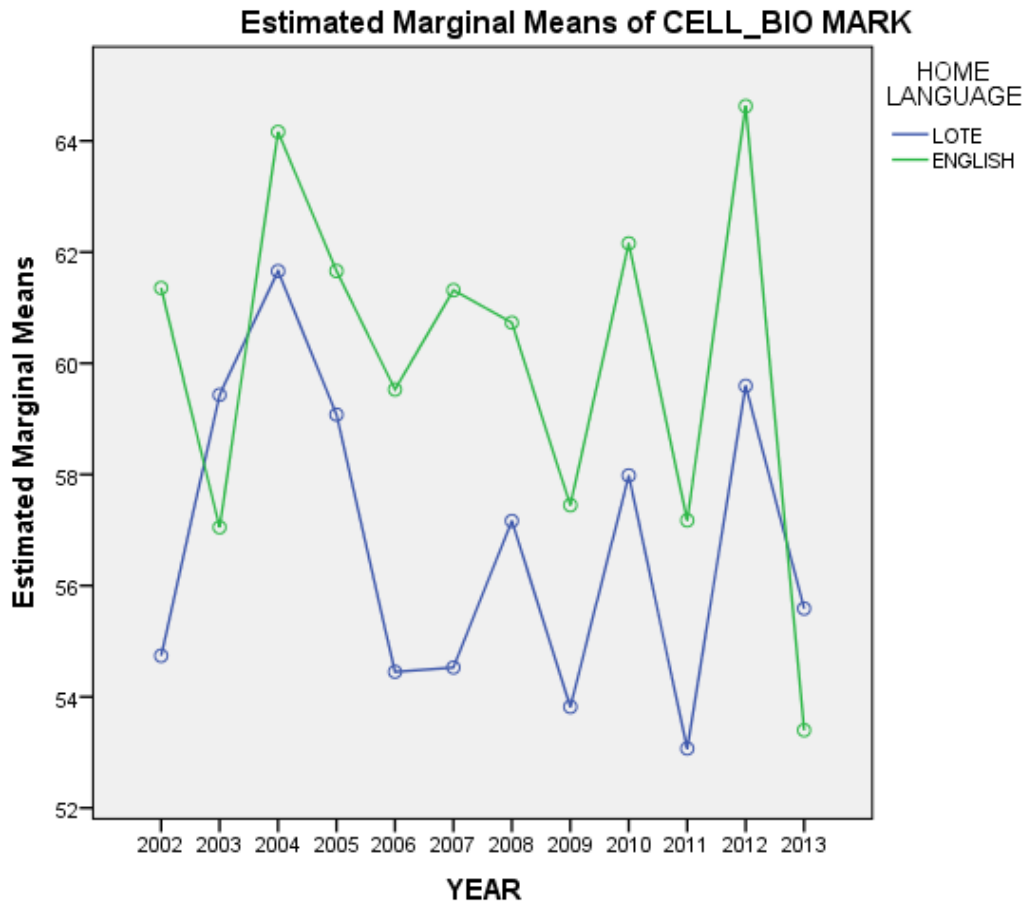
The marks were further broken down between LOTE and English students by mark and year between 2003 and 2013. This is presented in Table 2 and Graph 1 below. It can be clearly seen from Table 2 that English home language students have been achieving better results as compared to LOTE students. When compared year on year as reflected in the table, it is clear that on each year English students have been getting better marks, it is only in the year 2003 that LOTE students performed better. In other years like in 2002, LOTE students achieved 54, 74% against English students' 62. 38%, showing the difference in achievement between the two, and this becoming a patter repeating itself year on year accept for 2003. In 2003 LOTE students achieved an average of 59,43%, whereas English students achieved 57,05%, but this is not repeated again during the ten year period. These statistics are easily and clearly illustrated by means of Graph 1 below, which shows the up and down movement of the marks contained on Table 2.

**Table 2**

HOME LANGUAGE	YEAR	Mean	Std. Deviation	N
LOTE	2002	54.74	12.610	23
	2003	59.43	9.527	44
	2004	61.66	8.065	38
	2005	59.08	11.726	39
	2006	54.45	11.740	69
	2007	54.53	8.939	70
	2008	57.16	11.925	97
	2009	53.82	11.699	172
	2010	57.98	10.716	112
	2011	53.07	9.384	101
	2012	59.59	12.023	138
	2013	55.59	9.532	34
	Total	56.42	11.212	937
ENGLISH	2002	61.36	8.211	45
	2003	57.05	8.730	61
	2004	64.16	8.160	86
	2005	61.66	10.187	59
	2006	59.53	11.177	121
	2007	61.32	10.266	146
	2008	60.73	11.941	126
	2009	57.45	11.727	192
	2010	62.16	11.435	215
	2011	57.18	10.415	160
	2012	64.63	11.191	171
	2013	53.40	11.945	15
	Total	60.56	11.104	1397
Total	2002	59.12	10.317	68
	2003	58.05	9.105	105
	2004	63.40	8.181	124
	2005	60.63	10.841	98
	2006	57.68	11.615	190
	2007	59.12	10.337	216
	2008	59.18	12.038	223
	2009	55.73	11.838	364
	2010	60.73	11.353	327
	2011	55.59	10.209	261
	2012	62.38	11.820	309
	2013	54.92	10.253	49
	Total	58.90	11.328	2334

The marks can be illustrated much easier with the following graph.

**Graph 1**



### 5.3 Language composition of the role players in the Cell Biology module

In order to put the current study into perspective, it was important to establish the linguistic profile of the role players that are involved in the Cell Biology module during the time of research. These role players include students, their lecturers and demonstrators. It was expected that, to a large extent, the mother tongues and languages through which the different role players have been educated at school and university level, would determine their preferences, perceptions and attitudes towards language policy and language use in higher education. On the questionnaire, students were asked to indicate the primary language they speak at home and they responded as follows in Table 3 below.

**Table 3**

<b>N</b>	<b>Respondent Options</b>	<b>Numbers Response</b>	<b>Per Percentage %</b>
215	IsiXhosa	46	21%
	English	100	47%
	IsiZulu	14	7%
	Sesotho	6	3%
	Setswana	6	3%
	Shona	11	5%
	Ndebele	2	1%
	Tshivenda	2	1%
	Sepedi	13	6%
	Afrikaans	3	1%
	SiSwati	3	1%
	Tsonga	4	2%
	Other	5	2%
<b>215</b>		<b>215</b>	<b>100</b>

This data clearly shows that 2014 Cell Biology class is composed of students who speak a variety of languages, thereby reflecting the multilingual character of the student body at Rhodes University. A large majority of the Cell Biology students were home language speakers of English (47%) and isiXhosa (21%), with these two languages making up 68% of the questionnaire respondents. The other languages with notable numbers were isiZulu, Sepedi and Shona, as can be seen from Table 3. It would be reasonable to assume that the LOTE distribution over the past ten years would follow a pattern similar to the one on Table 3 above. Between 2003 and 2013 about 937 students indicated that they spoke LOTE as primary languages, while 1397 indicated that they spoke English as their primary language, according to the data obtained from the Data Management Unit. The linguistic profile of Cell Biology students in 2014 and the linguistic biographical data of Cell Biology students over the period 2003-2013 problematizes the use of English as the sole language of teaching and learning. This would become more apparent when juxtaposed with students' struggles as reflected in data that was presented in 5.2 above and the data that was obtained from the questionnaire and interview responses by some LOTE students.

Four lecturers teach the module, but from the four, two are the main lecturers, and these two, including the Extended Studies lecturer were interviewed. The two main lecturers both were English speakers, while the Extended Studies lecturer was a Shona home language speaker. Though demonstrators were not all asked to indicate their language profile this can be inferred from what was observed during the practical session observations. The Cell Biology module had 24 demonstrators and of those 24 demonstrators, six were interviewed for this research because only the six demonstrators availed themselves for the interview. From the six that were interviewed, two indicated that they speak LOTE, while the other four spoke English. From the 24 demonstrators, there were five who spoke LOTE. This five includes two demonstrators who replaced two demonstrators that stopped demonstrating halfway through the semester.

#### **5.4 The use of African languages in teaching and learning situations**

Investigating the use of LOTE in teaching and learning situations in the Cell Biology module at Rhodes University; is among the objectives of this study. This involves investigating who uses LOTE, where, when and the use of LOTE instead of English, the default academic language of the University. As a noteworthy theme, the use of LOTE in teaching and learning situations featured prominently across the data, which was collected using different data collection tools.

The use of LOTE first manifested itself during the observations in the Cell Biology practical sessions. All Cell Biology students are required to attend one practical session per week. Students are assigned to different labs and benches on which they conduct their practical tasks. Each practical session lasts for three hours. In most of the observed sessions, students were supposed to conduct their practical tasks using a microscope. Each lab had two practical demonstrators who helped the students during their sessions. It is in these practical sessions where the use of LOTE, in particular isiXhosa, featured prominently as some students discussed during their tasks.

The use of isiXhosa in the practical sessions became more prominent by the second week of observations, as students seemed to be more familiar and comfortable with each other. While the sessions of the first week were quiet affairs, there was much more chatter in the labs in the second week. In one instance, two students who seemed to be struggling with the

practical, which required them to look through the microscope and identify cells conversed in isiXhosa as they tried to help each other. One said, “*Ziza kude ziphele, andiboni niks*” [They will eventually run out, I don’t see anything]. Another student in a different bench also had problems seeing the cells through the microscope and asked his peer who was sitting next to him, “*Muzi, ubona ntoni wena?*” [Muzi, what do you see?]. These exchanges emerged more when students were struggling. In cases where they were not struggling, each student would sit quietly and do his/her work. This struggle and the use of isiXhosa was not only limited to these two group, even students in another group on a different day were struggling to see the cells and they were conversing in isiXhosa: “*Andiboni, uyabona wena?*” [I don’t see, do you see?]. The following lengthier exchanges were also captured in another practical session where students had to locate the cells.

OS-1: *Do you think ukuba zii-cells eziya?* [Do you think that those are cells?]

OS-2: *I think zezi zilapha.* [I think it’s the ones that are here]

OS-1: *I-Cell Biology andiyazi nokuba ndandiyenzela ntoni.* [I don’t even know why I chose to do Cell Biology]

OS-2: *Ndibona one, nantsiya incinci.* [I see one, there it is and it is small]

OS-1: *I-condenser yeyiphi, yile?* [Which is the condenser, it is this one?]

OS-2: *Ewe, Ingathi yiyo i-nucleus le.* [Yes. It seems like this is the nucleus]

OS-1: *Kutheni mna ndingenayo i-nucleus nje?* [Why do I not have a nucleus?]

OS-2: *Kum ayikho shem le cell.* [This cell is not there on mine shame]

Dem-1: *Siseright?* [Are we still alright/fine?]

OS-1: *Andiyiboni mna le nucleus. Ndibona izinto ezinyukayo.* [I do not see this nucleus, I see things that are moving up]

Dem-1: *Inoba zii-substances.* [Maybe it is substances]. At this point, the demonstrator started looking through microscope.

Students seemed to use the student sitting next to them as a first point of reference before they could ask for help from a demonstrator. From the observation, some of the LOTE speaking students did not ask for assistance from other demonstrators until the isiXhosa

speaking demonstrator came around and asked ‘Siseright?’ (Are we still alright?). It was only then that they would ask for assistance. This isiXhosa speaking demonstrator indicated that he preferred walking around the lab and asking students how they were doing because some students were not confident enough with their English and would therefore find it hard to ask questions from the English speaking demonstrators. This is a point he also made during an interview about whether students who speak LOTE found it easy to ask for assistance from monolingual English speaking demonstrators, he replied as follows:

“Dem-1: No, they don’t find it <3>easy<3> for an example, as I’m Xhosa speaking, the Xhosa speaking people in the labs, they prefer asking me. Because if they don’t get it with English we use Xhosa to make it easier for them to understand. <4>and<4> they definitely ask me for help every now and again.”

In one of the practical groups there were three students who were sitting together and conducting their practical. These students were working with different types of cells, drawing and annotating cells using the textbook as a reference for the annotation, as they had to draw and annotate the cells. There were also a number of pictures with the cells that students in the whole lab had to share. When one finished with one picture they had to go put it back on the table so that others could use it as well. These were some of the exchanges around these pictures:

“*Unayo wena? Thina asinayo?*” {Do you have it? We do not have it}.

“*Ewe, zizo ezi siza kuzenza*” [Yes, those are the ones we will be doing].

“*I-animal cell ayinayo i-chloroplast*’ [Animal cells do not have chloroplast].

In one session where students did not have to work with a microscope one of them remarked that “*ibhetele le nto kune microscope, ndisuka ndiphume iintloko yam iqaqamba*” [this is better than the microscope, I come out with a headache (when working with a microscope)]. This comment and the one of the student who said that she did not even know why she had chosen Cell Biology seems to suggest that these students were not having an easy time doing the module and they were struggling with it. It is interesting that these students would express their frustrations in their mother tongue instead of the LoLT, English.

The use of LOTE in learning contexts was further probed during interviews with LOTE speaking students. In total, seven interviews were conducted with LOTE students. During the interviews, four of the seven students interviewed indicated that they used isiXhosa in learning situations, while the other three said they would if they could but were unable due to the seating arrangement putting them among people who spoke different languages from theirs. The learning situations where they used their home languages were mostly practical sessions as was evident from the observations, which was the reason why they were approached for interviews. The interviewees also indicated that they used isiXhosa when they were learning on their own and with friends, as captured in the following response:

IS-6: Well xa ndifunda neetshomi zam [when I am studying with my friends], my friend is Xhosa. So we don't really use English...

The two students who indicated that they did not use isiXhosa during practical sessions indicated that their reasons for not using isiXhosa had a lot to do with practicality. One said that it was because the people she sat around during practical sessions were English speakers; she did not have anyone to speak to in isiXhosa in that context. She did, however, indicate that at school she used isiXhosa to enhance her understanding of the content she was learning. Her response about using isiXhosa at school to aid her learning falls within the 60% of respondents to the questionnaire who said that they had discussions with their teachers in their mother tongue in order to aid their learning. Another student said she did not use isiXhosa in learning situations because her friends did not speak isiXhosa, one spoke Setswana and the other spoke Shona.

The students who used isiXhosa during practical sessions indicated that the reason why they used isiXhosa in learning situations was because it made the learning process much easier for them, especially because this was something they had done in high school. One of the students, indicated that it is easier to learn when someone explains something in isiXhosa "because you understand more". She explained that in high school they used to be taught English in isiXhosa, meaning that isiXhosa as the home language of the students was used to help them understand English. She also indicated that the students who were taught this way passed English better than those who did English as home language, because for those students there was no mother tongue support. This is captured in the response below:

IS-1: I think you understand more, and since I did home language. IsiXhosa home language in high school, I think it also affects the way you study... Like

at school we used to make fun of it, like we used to be taught English in isiXhosa, which is weird but we passed it more than those who did it as home language. Because with home language they assume that you know, like you speak English at home, so yea it's like that. But with isiXhosa you understand more, you get it, like even when you get into an exam you know, can translate a sentence into isiXhosa and you can understand more and answer it in English.

Another student indicated that the reason why she used isiXhosa in practical sessions was because she understood isiXhosa better than English. Having the option to do work and have it explained to her in isiXhosa meant that she could understand concepts even when she does not understand in English. These two students had the benefit of having an isiXhosa speaking demonstrator in their practical group. This was a major advantage for them because they had someone who could explain the work in English and isiXhosa. As explained earlier, this is the point that Dem-1 made, that when students do not get it in English, he breaks it down in isiXhosa for students who also speak isiXhosa. The students who used isiXhosa in the practical sessions indicated that they used isiXhosa because it was easier to understand when they used isiXhosa compared to English. This is something they were accustomed to as they had done the same during their high schooling years.

When asked if they used isiXhosa in other contexts outside of the practical sessions, six out of the seven students responded that they used isiXhosa when learning with friends. There were two reasons why they used isiXhosa with their friends. The first reason was that they generally conversed in isiXhosa with their isiXhosa speaking friends. The second reason was that it was easier to learn when they explained the work to each other in isiXhosa than doing so in English. The one student who said he did not use isiXhosa outside of the interactions with his fellow students in the practical sessions said it was important to study and do the work in English because at the end of the day they get the examination question paper in English and they are required to respond to the questions in English. He said:

IS-4: For me I feel like you can't like use any other language besides the preferred language, I will say preferred language because at the end of the day the question paper you are gonna get is in English. So, I think you, you have to acquaint yourself in terms of how to use that English, in order for you to get familiar with the questions and stuff

This was a contrasting view with the other students who felt that doing the work allowed them the ability to translate the knowledge from isiXhosa to English as Zintle indicated.

IS-1: Yea because at times when they ask what is the aim of this and this, and when you explain it in Xhosa you will be like “yintoni” [what is], even if it’s not a direct translation, but you will be like “yintoni ebalulekileyo ngale nto” [what is important about this] and you will be like oh it’s this and this and this. You talk to yourself ngesiXhosa [in isiXhosa] and then obviously your answer will be in English, it sounds hard but it’s very easy.

It is interesting to see students’ approaching this topic from two different angles, as one is all for using English because eventually that is the language that is used for assessment, whereas the other students are more comfortable with the use of isiXhosa in order make sense of what they are learning. The students who are for using isiXhosa also indicate that processing and “translating” might sound hard to someone else, but for them it is actually very easy. The next chapter will engage with all these different practices and sentiments regarding the use of African languages as part of the data analysis.

### **5.5 Perceptions of role players about the use of LOTE in teaching and learning**

The views of students, lecturers and demonstrators were solicited about the use of LOTE in teaching and learning. This topic was pursued because the University’s language policy recognises isiXhosa as the language that should be developed in order for it to be used in the future as a medium of instruction as proposed by the Ndebele Report (2003). In order for such a recommendation to be successful it is important that all the role players in higher education buy into the idea. Those role players in the Cell Biology module are students, lecturers and tutors/demonstrators.

One of the students who were interviewed under this topic indicated that she would be in support of the use of isiXhosa in teaching and learning in the Cell Biology module. This student indicated that things had gotten to a point where she was no longer attending classes because she was struggling to follow what was happening in the lectures and only relied on You Tube videos for assistance. The Cell Biology lecturer who took the students first and taught them the longest always had a You Tube video for each topic he was dealing with. These videos seemed to have presented another avenue for learning to students who were

struggling to grasp what the lecturer was saying. The videos provided learning in a more concrete manner, with more visual representations of the abstract subject matter. This might have been one of the reasons why this student relied on the videos so much. The student indicated that the use of isiXhosa in teaching and learning would be helpful to other students who were struggling as she was.

IS-1: think people especially us, for people who don't understand, we will attend lectures more, because for me I was at a point where I was like I don't get this guy, like Mr What not [laughs]. He is always like I haven't been attending lectures, because I was like I don't get why I should go to lectures if I don't understand you know, but when I get to my room I watch You Tube videos, yea like I am able to express like you know like I don't know, like I am able to talk to myself in a way...

Other students who were interviewed expressed similar sentiments, with one arguing that:

IS-2: it sometimes happens that you think you understand something in English but in reality it turns out that you did not, but if isiXhosa was used to help you understand, you would be sure about what you know and what you do not

Another student made the point that there are some very difficult terms that are used in Cell Biology that she sometimes struggles with, and if there was someone to explain to her in isiXhosa, that would make things easier for her. One of the students interviewed (IS-4) indicated that although he supported the use of isiXhosa in teaching and learning, his was a more neutral approach indicating that he supported the use of isiXhosa because it is also a language that is equal to English. For him, the use of isiXhosa was not about supporting him to learn better, but it was about isiXhosa being an official language like English.

IS-4: If the university states that policy, then it is a good thing. At the end of the day the languages are parallel, they are equal.

Most of the students were, however, concerned about how the use of isiXhosa to support learning would happen given that not all students at Rhodes are isiXhosa speaking or want to learn in any other language but English. This is the one issue that some seemed to struggle a lot with and could not find a way around, but other than that 100% of the students that were interviewed were in full support of the use of isiXhosa in teaching and learning in the Cell

Biology module. IS-1 had an idea about how to get around this issue and proposed that perhaps an Academic Development Programme (ADP) class in isiXhosa could be established in order to open up space for the use of isiXhosa in a way that would not infringe on other people's preferences of the language they would like to learn in.

IS-1: Yea and like its gonna give students more, it will motivate them in a way to go to the isiXhosa ADP rather than going to lectures and stuff. They will be like you know what, I wanna go to the Xhosa ADP and get excited about it. It will gain their confidence. Because now the thing is you won't be confident, like with me I am always shy to express, like my \mom would always tell me that Zintle you are good, I don't know what you are afraid of, because I am afraid of being judged. Let's say I don't get something right, I feel dumb I am like yhoo, I can't even like even if I know an answer I won't answer in class, but let's say maybe if someone answers I would be like that's my answer, so that the thing about me.

The interview responses from the interviewed students reflect the ideas of some of the students who responded to the questionnaire and in particular to question 11 of the questionnaire. Question 11 asked the students to reply with either Yes or No to the statement "If I learn something in my mother tongue, I will be able to explain it better in English". The results of the questionnaire were that 66% of respondents responded with a Yes while 34% responded with a No.

**Table 4**

N		Responded Options	Number Per Response	Percentage%
173		Yes	115	66
		No	58	34
<b>Total</b>	173		173	100

Turing attention to lecturers, the two main lecturers were also interviewed on the question of the use of African languages in teaching and learning. Lecturer 1 supported the use of African languages in higher education arguing that it is firstly important for teachers in higher

education to be aware of the needs of their students, especially English Second Language students at Rhodes.

Lecturer-1: I think it's actually a very interesting question for one and my thoughts are that we really need to, as teachers we need to be understanding of the needs of our students and I think a lot of our students at Rhodes are English second language speakers. I think if we could augment our curriculum with components of their first language. I think it can only improve their learning, I am not saying we should do away with English completely, but I think especially earlier on, in the early years. Uhm, first year, second year and maybe sort of in inverted commas a "weaning" process off as much assistance but I think we should be and could be doing more to add to our curriculum."

Lecturer 1 further argued that it made a lot of sense to include African languages in teaching and learning because:

... in terms of biology, there are some really interesting terms and phrases that come out of African languages that I find fascinating in the field I work in. Animal and plant names and how they are derived. So it actually makes a lot of sense when you know those terms because they seem to come from a more common sense origin if you know what I mean. The name of giraffe is related to what it eats and so on. So, I think there is a place for us to be using it more and especially in our foundation level courses like Cell Biology, and I think biology, in general life sciences, and biology in particular lends itself to the use of more an increased use of African languages because of how the natural world is so interlinked with community life in a lot of African cultures and I think it's a fantastic addition.

According to him, the use of African languages further spoke to the issue of diversity in today's classrooms, adding that there was a need to be sensitive towards diverse students and students who come from schooling backgrounds that might have not prepared them enough for university.

Lecturer 2 also had an issue with which language would be used in a heterogeneous learning situation as it was in his classes. He pointed out that his second year class had students who spoke many different African languages and some of those students spoke non-South African

languages. He also pointed out that in a situation where students were to ask a question in isiXhosa, for example, he would not be able to reply to those students because he cannot speak isiXhosa or any African language. On the use of African languages in teaching and learning he argued that:

... teaching students in an African language would be disadvantaging the students for longer, because eventually they are going to out in the big wide world and do things in English.

Lecturer 2 argued that the most important question here is whether by using an African language you are disadvantaging the student or not for the future, because eventually they are going to be expected to perform in English in the future. He opined that the use of African languages is “one of those luxuries, nice-to-have kind of things” questioning whether one would “really doing the students an advantage”. He pointed out that it was a reality that English was a global language and that is something that no one can do much about, even despite a possibility that Chinese might surpass English in the coming years.

On his thoughts about the use of African languages to support learning for students whom English is a second language, Leturer-3, who is the Extended Studies lecturer thought that it “would be valuable if there was code switching rather than one language”. He believed that this was difficult in this situation because the students he teaches come from different language backgrounds and from languages that are not mutually intelligible like Nguni and Sotho languages.

Lecturer-3: I think it will be valuable if there was code switching rather than just one language, but unfortunately by the nature of the classes we have got people who speak Xhosa Zulu Tswana Sesotho and Tsonga. I have seen those groups. How then, which language do you code switch amongst them and be able to reach all of them because when you speak Xhosa the Tswana’s will be saying but sir what are you saying.

He argued that this posed a challenge, because even in cases where he would sometimes code mix during his classes, there would be a section of the group that would be lost and would need the other group of students who understood him to interpret. He believed in the importance of mother tongue in education, though he still had reservations about the reasons and the extent of the usage of LOTE in education. He used an example of an African country

that uses Kiswahili in education from primary to tertiary education, arguing that as good as that is, in the bigger picture, this put students at a disadvantage in the long run because the scientific world interacts mainly in English.

Lecturer-3: It's good; they understand they have many graduates that's fine in their mother tongue, in Kiswahili. The problem is when they want to interact with the rest of the world, and the problem is when they want to relate with resources that are coming from outside their country what happens is there has to be some translation point. Good resources are translated into mother tongue and then what happens if the resources are not translated.

He finished off by arguing that if classes were homogenous, the home language of the students could be used for purposes of explanations and for emphasis.

So, it is good in a way to use mother tongue, but I think it will be more useful if it will be used for emphasis or explanation, if at all the classes were homogenous.

Dem-I, who is an isiXhosa speaking demonstrator supported multilingualism in teaching and learning. When the question was posed to him, no language was mentioned, but rather he was asked about his thoughts on multilingualism in teaching and learning. He argued that when these students get to university, they come into an environment where everything is in English, from tutors to lecturers. He further proposed that in a multilingual teaching and learning situation isiXhosa, as the dominant regional language in the Eastern Cape could perhaps be used as another language for teaching alongside English which is the medium.

Dem-1: **Yes**, ... I would really love the idea of bringing multilingualism on the table because (.) it's not very easy for all students to understand English like immediately some of them are from those schools where you don't really grasp all the concepts in English and you not taught proper English. Yea, so you struggle now, when everyone is trying to talk English, your lecturer is English, everyone is English. So, it would be good to bring maybe a second language, maybe Xhosa, which is the dominant language in the Eastern Cape. It would be good; it would be a good idea.

Dem-1 argued that some students were finding it hard to cope at university because some come from schooling backgrounds that had a poor English teaching and learning environment. His proposal is also in line with what the Ndebele Report (2003) also proposed for higher education institutions.

The same question was also posed to five other demonstrators. Of those five demonstrators, Dem-6, who is also multilingual, supported using LOTE in teaching and learning to support students who are struggling to understand. He stated that he believed it would be helpful in as far as it would give students an understanding of the content, which students can use to translate the content into English.

Dem-6: There could be a significant role that the mother tongues can play, because you find out that most of them what I have noticed that they will think in their native language, and then try to translate that into English, and then if you try to incorporate the African languages into discussions to make them understand the concepts better, then in terms of laying it down they can revert to English.

Three monolingual English speaking demonstrators supported the idea of multilingualism in practical session, but they had reservations. One of the demonstrators, (Dem-4) argued that she could see instances where the use of LOTE could help, but also thought that it might “detract a bit” in some instances because Rhodes is an English institution and having people taught in another language might cause chaos. This demonstrator argued for a “targeted” use of LOTE in “specific situations” and perhaps with specific students.

Dem-4: It would be good, but people who are here, where they only speak English, if they are now being taught in another language that they don't understand, so it might pose some issues, but I can definitely see where it might be beneficial, and it might be more in a specific case or in certain things where it would be better, but maybe as a whole (.) I don't know. I can definitely see where it might have value, but in some cases it might like detract from that a bit.

Dem-3, who is also a monolingual English speaker, believed that a common language was needed in order to “level the playing field” for all students and, for him, English was that common language. Dem-2, who is a bilingual English and Afrikaans speaker, was of the view

that English should be “forced” on students at high school, because ultimately English is an international language. The views of the demonstrators were important because they represented the next generation of possible academics in the area of Botany and Zoology & Entomology.

## 5.6 Learning support materials

The issue of multilingual learning support materials and whether students would be willing to use them if they were available was also investigated, generating some interesting data from students. On the questionnaire, students were asked whether they thought that learning support materials should be made available in LOTE. From the respondents, 58% responded affirmatively (with a **Yes**) while 42% responded negatively (with a **No**) as can be seen below.

**Table 5**

<b>N</b>	<b>Respondent Options</b>	<b>Number Per Response</b>	<b>Percentage</b>
201	Yes	117	58
	No	84	42
<b>Total</b> 201		201	100

Students were also asked whether they would use support material in their mother-tongue, e.g. a glossary list with definitions of terms and concepts in their mother tongue, to address the learning difficulties posed by English should they be provided with such materials. From the students who replied, 52% of them said they would use material in their mother tongue to help them understand English terms/concepts they were struggling with, while 48% said they would not be willing to use them. Though more students said they would be willing to use the materials, the gap separating those who said they would and those who said they would not be willing was small (4%). What is also worth noting on this point is the context within which these statistics emerge. Rhodes University is one of the universities that were

previously designated as white universities, where a large proportion of students were white English home language speaking students who went to well-resourced schools. This character of the university has to a large extent not changed, though there have been steps taken over the past 20 years to make it more inclusive. This character of the institution can be seen from the questionnaire data about the type of school the Cell Biology students attended. Question 2 asked the students to indicate what type of school they attended, given the options Private School, Ex-DET School, Former Model C School and Other. From the respondents, 32% indicated that they attended Former Model C Schools and 35% indicated that they went to Private Schools while 17% and 32% went to Ex-DET Schools and Other respectively. Rhodes University still largely draws its student pool from Private Schools and Former Model C Schools, and these schools largely have white students.

During interviews, IS-6 indicated that having learning support materials like a Cell Biology isiXhosa dictionary/glossary would be very helpful for her.

IS-6: Yea it would be very productive if I could have a Xhosa Cell Biology dictionary kind of thing, I think it would be very, I think it would assist me a lot.

Like the other students, IS-5 indicated that she would use an isiXhosa glossary of cell Biology terms if it was available.

IS-5 Yea I would yea, because it's gonna make me understand faster.

All seven interviewed students indicated that they would be willing to use a multilingual glossary of Cell Biology terms to help them understand better, but at the same time most of the students were worried about their competency in isiXhosa, the data on which is presented in 4.9. The next section deals with demonstrators, the role they play in the Cell Biology module and whether they have the language skills to support LOTE students and whether LOTE students think that the demonstrators are supporting them enough.

### **5.7 The impact of language on demonstrator support**

Demonstrators also play a very important part in learning as they also form part of the support structure for students within the course. After lecturers, demonstrators are the other key participants that can either make learning happen or hinder it. From the observations,

there were about four demonstrators who could speak LOTE from a group of about 24 demonstrators. Another important question to ask was how effective were these largely monolingual demonstrators in helping a multilingual and diverse student population in the Cell Biology practical sessions. Students were asked if they thought having more bi/multilingual demonstrators in practical sessions would be helpful. All the interviewed students thought that having more multilingual demonstrators would be helpful. One of the students (IS-4) indicated that it sometimes happens that even though a student can speak English, the way one would phrase a question in English would be influenced by that person's home language. He further reported that this sometimes leads to demonstrators and lecturers repeatedly asking the students to repeat what they are saying because they do not understand what the student is saying.

IS-4: like at times when you ask a question to a monolingual person, that person is probably not going to understand that because at times the way you put words in English or any other language, it's not like easy for the other person to understand. Most of the times you find that when a person asks a question to a lecturer, the lecturer would be like come again come again. But you find when that person uses their native language which is Setswana, it's like easy you know.

He argued that a LOTE speaking demonstrator would be able to pick up those kinds of situations faster because they would identify with LOTE speaking students. IS-1 also believed that having more LOTE speaking demonstrators would be helpful, but she also acknowledged that even though most of the current demonstrators were not multilingual, they did all they could to assist students.

Both of the lecturers shed some light around the issue of demonstrators. Lecturer 2 indicated that they struggled to have more LOTE speaking demonstrators because they had very few black postgraduate students. He explained how demonstrators were hired and this process involved postgraduate students applying for the postgraduate funding in both the Botany and the Zoology & Entomology departments. Lecturer 2 pointed out that there are always enough funds to fund anyone who expressed an interest in demonstrating; everyone who applied always got the funding. The problem as far as LOTE students are concerned is that most students leave the academy after they finish their BSc's and they do not continue with postgraduate studies.

Lecturer 2 We are under great pressure to have more black South Africans on our group of postgrads; they are just not there. We can advertise and advertise and advertise, they just go off to business or industry once they have their BSc's or what have you, they are not interested in studying. So we don't have a nice balance, and it changes quite a bit, but where they are available, they need to be used as an asset to try and help along the lines of what the policy is saying.

When asked about what he thought could be done to better support LOTE speaking students, Lecturer 1 suggested that specialised demonstrating could be one way to support students. Attempts could be made to have at least one LOTE speaking demonstrator in each laboratory. He also argued that even if the LOTE demonstrator did not speak everyone's language, but being an L2 speaker of English will be an advantage because he/she will be more aware of what the LOTE students are going through and will be able to identify with them.

### **5.8 LOTE student language capabilities in their home language**

The linguistic capabilities of LOTE students is a factor that should not be taken lightly, because if they are not able to function in their home language, any intervention that proposes the use of LOTE to support them might not be effective. In order to try and determine the relative capabilities of the students, an exercise was given to the Extended Studies students to complete. In the exercise students were asked to respond to the following question:

You have been learning Cell Biology for seven weeks. Write down in no more than a paragraph in your **HOME LANGUAGE** anything you have learnt up to this point about cells. What helps you most in learning, what helps you least? What do you think will help you learn even better?

Of the 15 students in the Extended Studies class, 9 students took part in the exercise. Below are some snippets of some of the writings of the students who partook in the exercise.

### **Figure 2**

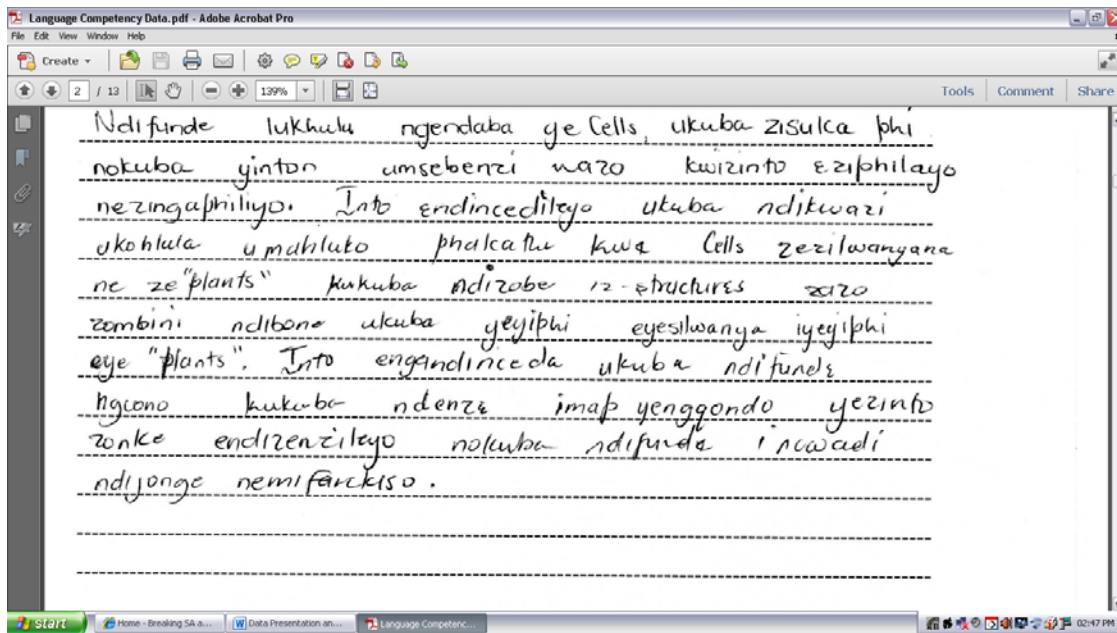


Figure 3

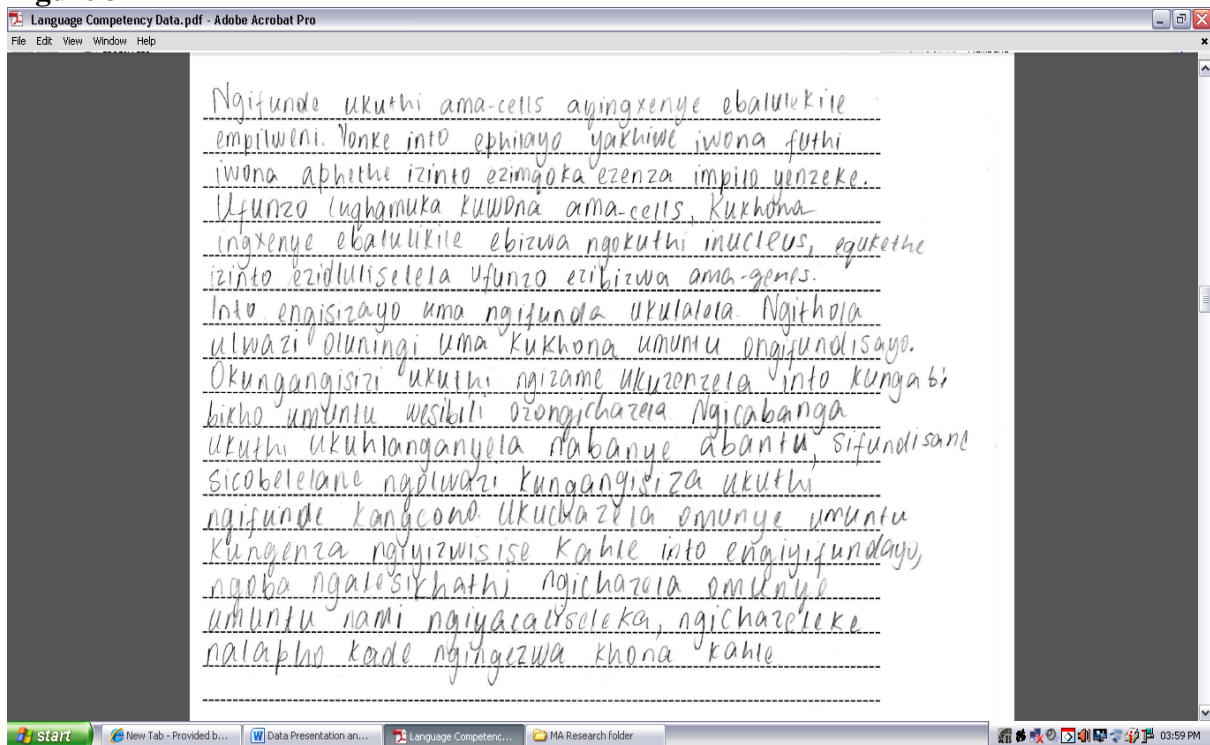


Figure 4

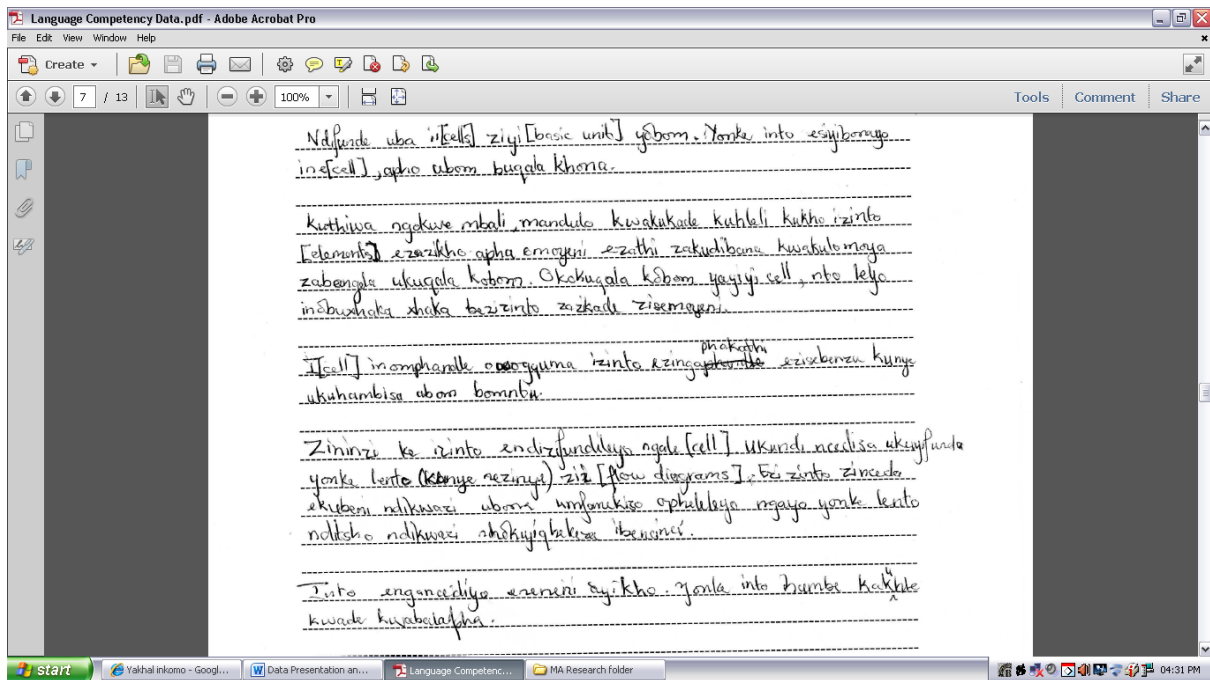
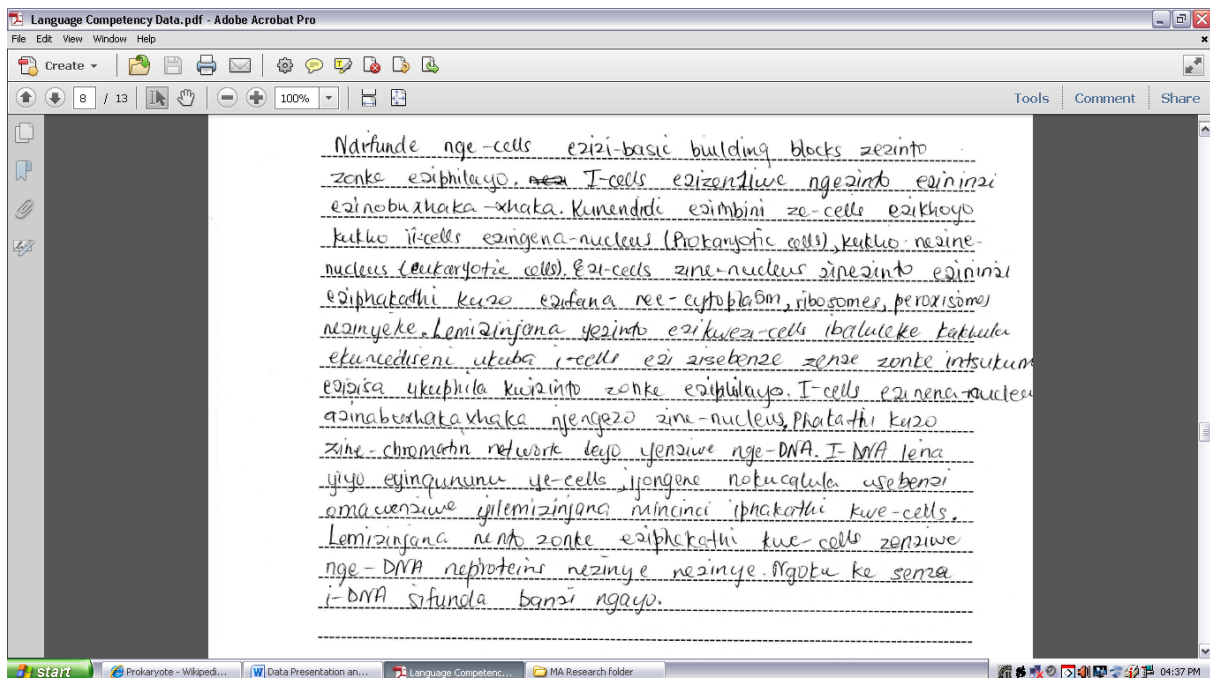


Figure 5



As the students were conducting the exercise, they were worried about Cell Biology terms that are not available in isiXhosa. This led to students talking and confirming from each other about certain English biology terms and what they were in isiXhosa. From these

confirmations from fellow classmates, some of the students were saying that they had learnt isiXhosa as a second additional language at school. After they had handed in what they had written down, some were talking about how embarrassing it was that they were could not write their home language, and were interested in taking isiXhosa as a subject at university.

During interviews, the question of whether students would be willing to use support-learning materials in isiXhosa was posed to them; all the interviewed students indicated that they would be willing to use the material. At the same time though, some of the students expressed some concern about their competence in their home language. They were worried that they might not understand all that would be contained in the mother tongue materials. This was because all throughout their educational lives they used English as LoLT and therefore had no experience of learning with the mother tongue. They worried that this could lead to them struggling to understand in isiXhosa because they would be dealing with new terms in isiXhosa that they might have never seen before. IS-1 one of those students who worried about their ability to fully understand certain words in the case where they had to use an isiXhosa glossary.

IS-1: Yea, some of the words because I have this book, it's written in isiXhosa and isiSotho English, it's a maths book and Afrikaans I think. So now the thing is I use it for like the Xhosa words, especially for Cell Bio, yea it is there but some of the words I don't get even if I look up them in Xhosa and stuff, I still don't get them. I think it's because some of the words are just too deep.

Another student (IS-5) indicated that she was willing to use an isiXhosa support material for purposes of understanding, but was not sure about writing in isiXhosa.

IS-5: if you are to translate isiXhosa to English, it gets to be hard, if you have to write it down. At least when I am about to say it, but if I have to write the content in English to Xhosa, eish some words they are just deep in Xhosa.

## **5.9 Conclusion**

In this chapter, collected and captured data from the Cell Biology module was presented. The data was presented according to themes that emerged as the data was being captured. Some themes emerged from different data collection techniques. The themes dealt with included the

marks of Cell Biology students over a ten-year period, where the marks were compared between LOTE and English students. Data pertaining to the use of LOTE in formal and informal learning situations was presented. The linguistic composition of the Cell Biology role players was dealt with in order to determine the languages spoken by students, lecturers and demonstrators in the module. Another important theme dealt with are the perceptions of all the major role players in the Cell Biology module about the use of LOTE to support learning in the Cell Biology module. Learning support materials are an important issue in teaching and learning. This theme was also dealt with in order to determine the thoughts of the role players, especially students about whether they think that they need multilingual support materials and if they would use them if they were made available to them. The impact of demonstrators in the Cell biology module was also probed and data pertaining to their role and impact was presented. Results of the captured data have been presented and the reader has been given a glimpse into some of the data that due to space constraints cannot be presented in full. The next chapter will be dealing with the discussion of the presented data and key issues that came out of this data will be discussed in order to make meaning out of this data.

## **CHAPTER SIX**

### **ANALYSIS AND DISCUSSION OF DATA**

#### **6.1 Introduction**

In the previous chapter, data that was collected using a variety of methods outlined in Chapter Three was presented. Data presentation was done according to themes that emerge and stand out in the collected data. This chapter deals with the analysis and discussion of the data. Data analysis also follows the thematic approach that was followed in the previous chapter, as the data is analysed according to similar themes. The discussion and analysis is conducted within the theoretical framework that constitutes of theories of language and learning and those that embrace multilingualism as a reality and resource, while advancing the important role of mother tongue education (see Chapter Three). This analysis and discussion of data is done under the following themes:

- Cell Biology students performance along language lines over 10 years
- Linguistic composition of the Cell Biology students
- Linguistic composition of Cell Biology teaching staff
- The use of African languages in teaching and learning situations
- Perceptions of role players regarding LOTE in formal teaching and learning
- Learning Support Materials
- Demonstrators
- LOTE students' capabilities in their home language

#### **6.2 Cell Biology students' performance along language lines over 10 years**

These marks served as preliminary data that was collected to provide an insight regarding the impact of language on the performance of students in the Cell Biology module, particularly whether there is a difference between students who speak LOTE and students who speak English as their home languages. Indeed, the marks indicate that there is a difference between

LOTE and English speaking students (cf. section 5,2). Between 2003 and 2013, English-speaking students did better than LOTE students. When looking at the average difference in marks, it can be noted that over the 10 years there has been an average difference in the 5% region in favour of the English speaking students. This is not surprising in a country like South Africa, which has a history of inequality along racial lines, where white English and Afrikaans speakers were given educational privileges. Although there were political changes in 1994, inequality still persists. The South African education system still very much resembles the old order, but with a few exceptions with the growth of a black middle class that is able to send their children to good private and Ex Model C schools. For the vast majority of the working class and the poor, the education situation remains the same as they still attend under-resourced government schools that produce under-prepare students for higher education, which leads to situations such as that of Cell Biology at Rhodes University. This educational situation in the country, including higher education, while being a product of South African history, has far-reaching implications for socio-economic and political transformation. Even though there have been gains made the past 20 years, South Africa still remains a highly unequal society in terms of “wealth, income opportunities and living conditions” (Badat 2009: 457).

It was only in 2003 when there was a marks difference that favoured LOTE students, it is important to try to understand why this category of students, who play a second fiddle throughout the 10-year period, seem to have outperformed their English-speaking counterparts. A closer look at the 2003 data (see that section 5.2) indicates that there were 44 LOTE speaking students who took Cell Biology in that particular year. Of those 44, only 18 students spoke South African languages as their home languages, with the majority of the LOTE speaking students being Shona and Ndebele speakers from Zimbabwe. It may be argued that even though the LOTE students did better than English speaking students, the fact that the majority of these students were non-South African students who experienced English tuition in contexts that are different from South Africa played a role in their achievement. The Zimbabwean education system is generally credited with producing a high level of competency in English, with Zimbabwean students being less challenged by English by the time they get to university, compared to South African students (cf. Section 1.2). This leads to a situation where students coming from other countries are better prepared for university than those South African students who come from disadvantaged backgrounds.

Rhodes University, as alluded to in the previous chapter, is a previously white designated university and it is a research intensive and prestigious university, where access has always been tightly controlled, especially for black students. However, since the transition from apartheid to democracy, the former white universities have been under pressure to transform and reflect the population demographics of the entire nation in their student bodies (Boughey 2005; Scott et al 2007; Jansen 2004). Looking at the 2003 statistics (Section 5.1), it is clear that the university managed to get black students, but the majority of these students were not South African. Rhodes being a prestigious university has always accepted the best students but, like other former white universities, it has recently started accepting students on potential than marks, with those students being put through the Extended Studies Programme. With this in mind, it stands to reason that these students whose majority came from Zimbabwe came from an education system that prepared them better for university, which would have given them good marks for entry to Rhodes. This would have prepared them for university much better than most South African black students whose majority attend former DET schools. In 2003, the number of Zimbabwean Shona and Ndebele speaking students was much higher than that of the South African language speaking students, and in that year LOTE students got higher marks than English students. Since 2004 where South African language speaking students were higher or were equal with the non-South African languages speaking students, LOTE students have not been able to get better marks than the English-speaking students.

The low LOTE marks are repeated so many times that it cannot be considered an isolated incident or coincidence, but a pattern that keeps repeating itself with different students each year. There could be various reasons why LOTE students consistently get lower marks than the English students. Some of these possible reasons might have to do with the social background of some of the black South African students. Social background affects students in a number of ways. A student who comes from a poor socio-economic background is more likely to attend an under-resourced public school, which would influence their educational foundation before they get to higher education HE (cf. Scott et al 2007; Bhadat 2009; Higher Education Monitor 2010; Boughey 2005). According to the Higher Education Monitor (2010: 6), students who enter higher education in South Africa do so from a position of inequality on different fronts, ranging from academic preparedness due to poor education and financial difficulties. These are among the reasons cited by Scott et al (2007) as the contributory factors leading to students taking longer to finish their degrees. These disparities according to

Badat (2009: 458) are as a result of “systemic inclusion and marginalization of particular social classes and groups”. These patterns still remain imbedded in South African society and in the higher education system two decades after the end of apartheid.

However, it is also clear that language could very well be one of the factors that play a role in the underperformance of LOTE students (Madiba 2011). This is also an issue that was alluded to by the Council on Higher Education (2007) report. The report shows that there have been changes with regards to access to higher education for black students, but there is, still, a problem with success, with the performance of black students being lower than that of white students (Scott et al (2007) also argues that even though participation rates for black students have increased significantly, output rates still remain very low compared to those of white students. Language is linked to the question of a student’s preparedness for higher education. Paxton (2009: 346) argues that the fact that most black students in higher education study through a second or additional language has an impact on success and completion rates for black students. It therefore stands to reason that in the Cell Biology module there is a similar situation. Some of the students seem to be generally underprepared and the fact that they come into a highly English environment compounds the problems they are already facing because there is no familiarity with anything around them as was the case during high school.

The data has clearly shown that there is a difference in marks obtained between LOTE and English speaking students. English speaking students seem to be doing better because the LoTL happens to be their home language, whereas LOTE speaking students speak English as an additional language. The consistency with which it happens means that we cannot discount, but rather confirm, language as a major factor in the disparity between the performance of LOTE and English-speaking students in the Cell Biology module, as has been suggested by earlier studies such as Madiba (2011, 2012; Paxton 2007, 2009). The exclusive use of English as the language of tuition and assessment in higher education disadvantages LOTE students, as it is not their mother tongue. This is not helped by their educational backgrounds, which sometimes make them under-prepared for its sole use of English as the academic language. The analysis in the remainder of this chapter will add more weight to this argument, including the complex nature of the language situation in higher education due to the perceptions of different role players. The next section will deal with the use of African languages in teaching and learning situations.

### 6.3 Linguistic composition of the Cell Biology students

The data showing the linguistic composition of the 2014 Cell Biology students clearly shows that a diverse group of students who speak all of the eleven official languages of South Africa and other non-South African languages enrolled for the module. There is, however, a hierarchical numerical structure to the linguistic composition of the students. As shown in the previous chapter, almost half (47%) of the students indicated that they speak English as their home language. This is not surprising because Rhodes as an institution since its inception has been an English medium and English whites only and English-values based institution. The language with the second highest number of speakers is isiXhosa (21%), which is also not surprising because isiXhosa is the language that is spoken by 78, 8% of the population in the Eastern Cape where Rhodes is located (Stats SA 2011). Looking at the number of isiXhosa speaking students who are doing the module, and based on Rhodes DMU between 2009 and 2013, isiXhosa has the second highest number of students who indicated that they spoke the language as a home language (Rhodes University DMU 2014). This shows that there has been some improvement in the enrolment of black students at a previously whites only institution. The issue change in demographics in order for institutions of higher learning to reflect the broad societal demographics has been one of the major focuses of the Department of Higher Education Training, as reflected in the National Plan for Higher Education (2001). The plan makes it very clear that there is a need to transform higher education from what it was under apartheid and change it into an inclusive national asset that serves all South Africans. Though these statistics show that there has been progress in the enrolment of black students at Rhodes, there is still a long way to go because English home language and most likely white students seem to make up a very big proportion of the students when looked from the context of the national demographics.

IsiXhosa being the language with the second highest number of speakers justifies the recommendation of the Ndebele Report (2003), which proposed that all institutions of higher learning in South Africa must choose an African language that they will develop in order to use in the future as a medium of instruction. The Report proposed that the provincial/regional dominant indigenous language in each province/region must be the language chosen to be developed, and Rhodes chose isiXhosa as it is stated on the University's Language Policy (Rhodes University 2005). Statistics of this nature are not unique to the Eastern Cape, across

the country there are provincially and regionally dominant indigenous African languages. The report seeks to work within that framework to achieve the development of African languages and equal opportunities for success in higher education.

Going back to the numbers, the two languages, isiXhosa and English make up 68% of the respondents who responded to the questionnaire. These statistics shows that in the future there can be a possibility of a dual medium complementarity approach to the question of medium of instruction at Rhodes. Madiba (2004) proposes the complementarity approach is by as a possible approach than can be followed by South African universities in order to assist EAL students. The use of indigenous African languages alongside English is also supported by Bamgbose (2000), who argues that there is no need for competition between English and indigenous languages, instead there should be a reciprocal relationship between the English and indigenous languages. It is this reciprocal relationship between African languages and English that should be encouraged in the South African higher education, because English alone has up to this point not produced the best results in terms of success in higher education as have the numbers discussed in 5.2 have shown.

If one also looks at the statistics from the mutual intelligibility of languages approach, one would notice that the Nguni group of languages makes up 30% of the respondents to the questionnaire. This means that an intervention that proposes the use of isiXhosa to support students who speak English as an additional language could benefit students who make up 30% of the students doing Cell Biology. This is so because the Nguni group of languages are mutually intelligible, meaning that students who speak these languages would benefit from an isiXhosa or isiZulu speaking demonstrator/tutor or lecturer. Combining the 30% of Nguni language speakers and the 47% of English speakers, you have 77% of students who speak English and a Nguni language. These statistics show that as much as there is diversity within the module, the situation can be managed with some creative ways of incorporating the home language in teaching and learning.

#### **6.4 Linguistic composition of Cell Biology teaching staff**

As far as the teaching staff is concerned, all of the mainstream lecturers are English speaking, while the Extended Studies lecturer is Shona and English speaking, while there were five LOTE speaking demonstrators and 19 English speaking demonstrators as presented in 5.8

above. The fact that the majority of the teaching staff in the Cell Biology module are English speaking complicates learning for multilingual LOTE speaking students, because if the majority of the lecturers and demonstrators cannot speak LOTE that has repercussions for students who use and want to use LOTE in formal and informal learning situations as demonstrated in 5.4. This situation of having more monolingual lecturers and demonstrators is problematic in that it creates a situation where multilingualism is not embraced in the teaching and demonstrating practices in the module, leading to insensitivity about language issues. The monolingual nature of the current staff members means that students are expected to be the ones making all the effort to be understood by monolingual lecturers, while the fact that the lecturer cannot speak the student's language is not questioned, but rather is accepted as what should be. One of the problems with the South African higher education system, especially in the previously advantaged universities, is that there is always a problem with the black students who always have to go an extra mile to fit in, which is why Jansen (2008: 111) asks "why make the student an object of deficit gaze and not the staff?" (cf. Brand 2003: 30; Bangeni and Kapp 2008: 258). The higher education landscape has changed. It is time that monolingual staff members do not hide behind their inability to speak the languages of the students they teach, but rather do something about that. At Rhodes isiXhosa staff courses are available for staff members who wish to study isiXhosa. The course will not make them fluent, but it will be the first step in the multilingual direction.

There is also an issue about transformation, the fact that most lecturers are English speaking is something that did not happen by chance, but rather a result of the way that South African higher education was designed by the apartheid government. The sciences were mainly preserved as fields for white students and a few black students. That apartheid design still persists to this day as can be seen by the small numbers of black academics in the physical and natural sciences. Jansen (2004: 124) argues that institutional culture at universities is not maintained at the senior management level, but rather is maintained at certain "points of power" which include faculty and academic department levels. It is that which happens at these levels, who gets appointed to what posts that determines the direction and culture of an institution. This is how exclusion and privilege of particular groups and exclusion of others is maintained. In the Cell Biology context, the current teaching staff cannot be at fault for being white, but what needs to be asked is why it is that there are no black lecturers for the module, and what is the faculty and university doing to change this situation? Beyond the fact that there is a need for transformation to happen in higher education, there is a need for

lecturers that can reach the high numbers of students who come from different backgrounds that are coming into higher education in a number ways, including through language.

The higher number of monolingual English speaking staff members is in line with Mesthrie's (2008) argument that one of the difficulties of using African languages in higher education is that subject specialists are to a large extent English monolingual speakers, and this makes the use of African languages difficult. The issue of monolingual teaching is a serious issue of concern because it shows the maintenance of particular practices where English is maintained as the only language through which learning can happen in the sciences. Addressing Mesthrie (2008), there are ways around the fact that the current staff members are monolingual, and within the context of this study, lecturers need to be aware and sensitive to issues of multilingualism and diversity as is required by the university's Language Policy (2005). Most of the support work as will be dealt with in the recommendations section will be done at the demonstrator level, and there is a need to have more LOTE speaking demonstrators. The majority of the demonstrators are monolingual English speaking or bilingual English Afrikaans speakers. As for the African languages speaking demonstrators, there were only five for the semester and that five in reality was three because two were replacements. So, what that clearly shows is that there are much more English speaking demonstrators than there are LOTE speaking demonstrators. As with lecturers, this is a problem because monolingual demonstrators will see students who cannot speak English well enough as having a problem but not seeing any problem with their own inability to speak any other languages besides English. What is also worth noting is the fact that demonstrators of today are likely to be the lecturers of tomorrow, and with them being as monolingual as they are today, 20 years from now we are likely to have a similar situation with a pattern of monolingual lecturers continuing, which is why there is a need to fix this now. More discussion will follow on this subject of demonstrators in 5.5 below.

## **6.5 The use of African languages in teaching and learning situations**

As far as the use of African languages in teaching and learning situations is concerned, two aspects are discussed in this section. These are:

1 *The general use of LOTE as was observed and what can be made out of those observation*

## *2 The thoughts of students on their use of LOTE*

The data that pertains to these issues is discussed separately in the next two subsections.

### ***6.5.1 The use of LOTE as was observed and what can be made out of those observation***

From the observations, the use of LOTE, particularly isiXhosa, featured very prominently. Students used isiXhosa in their discussions quite frequently as had been reported in the previous chapter. What is clear is that most of the students who used LOTE did so when they were struggling to understand the tasks they were supposed to be doing. It was when they started to struggle that they would consult the person sitting next to them and ask whether he/she has managed to do what is expected, and how they did it. Most of these discussions happened when the students were confused with the work, but when they were able to do their work, there would be less talking. For most of the LOTE students, they would use their peers who also speak LOTE as the first point of contact when they were confused, before even seeking the assistance of the demonstrator, who would be English-speaking most of the time. The assistance of the demonstrator would be sought after an unsuccessful consultation of another student peer. The fact that there were few LOTE demonstrators or none in some situations did not make the situation any better.

At the core of the analysis, it is important to understand why the students choose to speak their home languages when they were struggling. An answer to such a question lies in the conceptual processes and instructions guiding the task to be completed are linked with the LoTL (English), which they are struggling with. It is at that point of struggle that they revert to the mother tongue to deal with their struggle with the LoLT. The majority of them went to former DET schools where, while the medium of instruction was English, isiXhosa or another African language was also used alongside English. Obanya (2004: 10) argues that in most African countries the language in education policy and what is actually happening in the classroom are two totally different things, because “teaching is done in a language in which neither the teacher nor the learner has an appropriate mastery”. Teachers resort to code switching between the LoLT and the home language in order to get the message across to their students. When these students get to university, they are faced with a serious learning challenge of having to do everything in English, because their lecturers and tutors/demonstrators exclusively speak English. This is a problem because as discussed

above, it shows a lack of transformation in the South African higher education system, especially at the level of teaching staff and it disadvantages LOTE speaking students. Dem-1 agreed that some of the students' schooling backgrounds have meant that they do not have confidence in their English competencies. The reliance on the home language does not suddenly stop when they get to this highly English environment such as Rhodes University, they struggle to understand, but they unfortunately do not have the benefit of a home language teacher as they did in high school.

The use of the home language when students are struggling or confused clearly suggests that some students are not comfortable with the exclusive use of English as the only medium of communication. This is why they resort to the mother tongue when under pressure. A number of studies (Paxton 2009, 2008; Bangeni and Kapp 2008; Madiba 2012) have demonstrated how EAL students use code switching in learning contexts in order to aid their understanding of the content they are learning. During these discussions, the main issue regarding the use of the home language for these students is not about the form of the language, but rather the meaning making in the home language before they can transfer that to English. As argued by Madiba (2012), these students are using African languages in complementarity with English. This is exactly what Bamgbose (2000) argues for, that there is no need for conflict between the African languages and English. What the critics of the use of African languages in teaching and learning in higher education fail to see is that this is a moving train already, students are already engaging in learning using English and the home language. The challenge now is about embracing the strategy as part of the institutional language policies, such as that of Rhodes University, which promotes multilingualism and the development of African languages as prospective fully-fledged academic languages.

The students that were observed speaking their home language always had the choice of using English if they wanted to, but they opted to use their home language because it could facilitate learning better. They also seem to use the home language for ease of transference of information between one student and the other, because communication is easier in the language one understands best. As one student put it to Paxton (2007: 64), "It's easy to learn when using your home language, but with English you need to learn the language before you get to the concept". This confirms that for LOTE students, learning is an experience that is much more difficult that is not provided for by the prevailing and dominant institutional cultures that have, for a long period, been nurtured around English as the default academic language.

There is also an issue of identity. Mesthrie (2008: 327) argues that the recognition of as many languages as possible in education is imperative as it will go a long way in recognising the dignity of the people who speak the language. This argument applies to LOTE students as well. Using the home language has the potential of making them feel like they belong in this unfamiliar and traditionally English space. Using the home language makes them comfortable about who they are in this space. Bangeni and Kapp's (2008) study shows clearly how students who come from ex-DET schools, especially at first year struggle to find a sense of belonging when they get to UCT, which is a university that is very similar to Rhodes in history and character. So, the opening of space and acceptance of African language has the potential of curbing the alienation that is experienced by some of the students who come from disadvantaged schooling backgrounds. It must also be remembered that in the past, language was used as a tool for control and division, dividing South Africans by tribe and by race. Language was used as a tool for control of access to resources and upward social mobility, and higher education is one of those areas whose access was controlled. Though physical access to higher education seems to have opened up more for students who speak LOTE, language still denies these students epistemological access.

### ***6.5.2 What do students make of their usage of LOTE?***

The student interviews shed some light regarding the context and reasons for the use of their home languages. Four of the seven interviewed students were clear about their use of isiXhosa in learning situations, stating that they used isiXhosa because it helped them learn better. Talking in isiXhosa with the person sitting next to them in practical sessions made it easier for them to understand and perform their tasks. These students indicated that the use of isiXhosa to aid learning was not something new for them, as they had also used it in high school. This means that their use of isiXhosa was not merely a spontaneous act, but rather a deliberate learning strategy, or a coping mechanism in the context of challenges posed by the sole of use English as a medium of instruction. The students chose to use the home language because they thought that it would be able to better explain the information that was being taught through English. They believed they could process and make sense of the information much more if it was in a language they understood better, as demonstrated by Paxton (2007, 2009). Paxton's (2009: 347) study sought to investigate how students code switch and make use of their home language and primary knowledge to make sense of new concept that is

taught through English. In the end, she discovered that the learning of new concepts is hampered by the use of a second language (English) and that students should be given opportunities to explore these new concepts they are learning through their primary language.

The observed and interviewed students exhibit signs of people who still need the context to help them decode messages; which is consistent with BICS (Cummins 1986, cf. Chapter Four). The decoding of these messages needs both BICS and CALP (Cummins 1996, cf. Chapter Four), because CALP is built on BICS. Teachers in higher education need to understand that the process of building CALP needs scaffolding through the home language for students who have yet to develop these skills in neither the L1 nor the L2 (Brand 2003: 30). They need their home language together with a familiar person sitting next to them to provide a context where they can interpret context-reduced knowledge by contextualising it through the home language as was done in high school. The Cell Biology students indicated that they see some benefit in using their home language because it makes things much simpler while those who said they did not use the home language explained that it was only due to practicality, otherwise they would use the home language given the opportunity and support. It is also interesting that the students who were interviewed were not ashamed of saying that they understood isiXhosa better than they do English because, quite often, there is negativity associated with knowing the home language while struggling with English.

The majority of the students who were interviewed further indicated that they also used isiXhosa when learning with friends and when learning on their own. These spaces where students use their home languages for learning are where the complementarity language use model and translanguaging proposed by Madiba (2010, 2012, 2014; Hibbert and van der Walt 2014) can be very useful. Such spaces should be used as the first step towards the use of African languages alongside English. Obviously, at this point it is difficult to use African languages in the lecture theatres because of the monolingual nature of most lecturing staff and because of multilingual nature of the classes themselves. But even though that is the case, LOTE students have created these spaces for themselves to use their home languages (Madiba 2012). The fact that they created these spaces on their own is very important because it creates a language planning environment that takes a down top approach rather than a top down approach. In this way, language planning becomes organic, it happens from below. What the university needs to do is to look at the needs of the students and adopt what is being proposed through a bottom up approach.

In this study, the students used isiXhosa because they generally conversed in this language with their friends who speak the same language, which made using it to explain their work to each other easier than when using English. It is, however, interesting that one of the students indicated that he preferred learning in English throughout because eventually he will have to write an examination, which will be in English. For him, it made more sense to learn in and familiarise himself with the language that will be used for examination. What this student argued is a valid point, that in the end the examination will be in English, but what he failed to see is the fact that English is “unassailable, but unattainable” as Alexander (2000) noted. Though English is the medium of instruction in the South African education system, and it dominates the controlling domains of the society as a whole, a lot of people still do not have access to it. So even though it is the medium of instruction, familiarising yourself with it might do one very little advantage in the end if they still do not understand the input.

This latter student’s view was a conflicting view from the other students who argued that it was easier for them to understand the content in the home language and then transfer the knowledge to English. The argument that it is best for a student to get maximum exposure to the L2 is held by many other people, presuming that maximum exposure equals proficiency. It is in fact not the case, though exposure to the language is important, what is also crucial “is the extent to which students are capable of understanding the academic input to which they are exposed” (van Zyl 1961, cited in Mahlalela-Thusi and Heugh 2000). The students who preferred to use isiXhosa to understand the content and then transfer that knowledge to English stated that it might sound difficult for some, although they found it was easy and it makes sense to them. This learning technique is consistent with Cummins and Swain’s (1986) CUP model to bilingualism, because these students use the language they know best to process the new information and then transfer the information to the L2. Even though both languages depend on each other for development, the L1 becomes more important because of the fact that it is the language that a bilingual would have developed cognitive and affective abilities in (Batibo 2004). Cummins and Swain’s (1986) interdependence hypothesis also argues that the type and level of competency a bilingual archives in the L1 determines how the L2 is acquired.

Based on theory and research, it is clear that what these students are putting forward about their ability to transfer knowledge from their home language to English is possible and they seem to be doing it. What should, however, be noted and carefully managed is whether or not what they are transferring is indeed correct, because they are after all first year students who

need guidance from a senior authoritative figure. In the context of Cell Biology, students are using their home languages and English on their own for the most part, and that is because of a lack of support in the way of lecturers and tutors who speak LOTE. This is a potential problem that could lead to students transferring incorrect information, because they are as yet not subject specialists, they need guidance. It is, therefore, important that they have a senior person who speaks an LOTE to guide them and make sure that as they transfer, they do so correctly, as was demonstrated in Paxton (2000, 2009; Madiba 2012). To achieve this, not only will universities have to transform their staff by employing lecturers who speak LOTE or those who understand the plight of LOTE students. The existing personnel also need to transform their minds and practices, with language being integral to such transformation.

Students were observed using African languages in learning situations, and by their own admission they were doing so because learning through the home language made the learning process easier for them. They also argued that it was easier for them to understand the content in their home language and transfer the knowledge to English, which is consistent with the CUP model. What these students were saying is consistent with theory, as demonstrated above and this opens up opportunities for the use of LOTE within the Cell Biology module. The use of LOTE by students should be encouraged and supported by the decision makers within the Cell Biology module. This support should mainly be through the provision of multilingual tutors who can work with students and guide them in LOTE. The students themselves can also play a very important role in the development of Cell Biology terminology and concepts in isiXhosa. One of the principles that critics of the development of African languages for use in high function domains should understand is that languages develop as a response to a communication problem Madiba (2012). Once the speakers of a language have a communication problem they solve the problem by developing terms and registers that respond to the problem. However, this can only happen when the language is used. So, what this means is that when African languages are used in the Cell Biology discussions and practical sessions, communication problems will arise and they will need to be fixed somehow and terms will be developed to fix the communication problem. The next section will deal with the perceptions of role players in the Cell Biology module about the use of LOTE in teaching and learning.

## **6.6 Perceptions of role players regarding LOTE in formal teaching and learning**

On the question of whether students supported the use of LOTE, particularly isiXhosa, in formal teaching and learning, there was a positive response from all the interviewed students. All the seven students argued that the use of isiXhosa in the Cell Biology module would help students who, like some of them, were finding it hard to cope with the module. These students believed that the use of isiXhosa to support learning would add value to their learning experience by allowing them the opportunity to use the language they understand best to make sense of Cell Biology content. It was not surprising to hear students supporting the use of LOTE, because most of them had been already using their home languages to enhance their understanding and had done so for most of their schooling. The formal use of LOTE would be a step further for some students, but as it stands, they are only using their home languages in practical sessions, when they are learning with friends and during their own study times. This was evident from both interviews and observations of during the practical sessions. The problem, though, is that at present these spaces where students use LOTE are informal and unrecognised spaces where students do it on their own without teacher support.

Though most of the students supported the use of LOTE, they were concerned about how and where LOTE would be used since Rhodes is a multilingual university with students who speak all of the eleven South African official languages (cf. Section 5.3). This concern is valid, and leads to some viewing multilingualism as a problem for South African higher education (cf. Mesthrie 2008), but in this context, there is policy guidance on how LOTE should be incorporated. The Language Policy for Higher Education (2002) instructed universities to formulate and publish their language policies in line with the Constitution of South Africa, and Rhodes in its own Language Policy (2005) recognised English Afrikaans and isiXhosa as the three language of the university. According to the policy, English remains the medium of instruction and Afrikaans is recognised as it is also a provincial language. IsiXhosa is earmarked as the indigenous language to be developed for future use as medium of instruction in line with the Ndebele Report (2003) which encourages universities to choose and develop an indigenous language for development and use as a medium of instruction alongside English. As argued earlier, one of the possible ways of dealing with the how aspect in support of LOTE students could be creating multilingual spaces for students to have work explained to them in their home language or a language close to their home language. With the availability of personnel, students could be grouped according to mutually intelligible

languages and spaces could be created for Nguni speaking students and Sotho languages speaking students likewise.

According to Koch and Burketti's (2005) framework for the use of African languages in higher education, one of the possible ways of using African languages is by introducing them by level. This means that African languages can be used to support students at entry level during first year and possibly second and third and in order to allow "students to draw on their home language to develop academic literacy" (Koch and Burketti 2005: 1099). What is important about this approach is that it bridges the gap and endeavours to ensure that language does not act as a barrier to success at entry level. It is important to ensure that the transition from high school to university is managed carefully for LOTE students, primarily because of the alienating nature of the former white universities like Rhodes. Transition is difficult enough for English home language students, but the challenge is even greater for students who come from largely homogenous schooling backgrounds where everyone was familiar and they spoke the same language (Bangenjani and Kapp 2008).

The views and opinions of the demonstrators were interesting because their thoughts differed largely based on the languages they spoke and possible personal experience. On the one hand, the two multilingual demonstrators who spoke LOTE and English were in support of the use of LOTE to support learning. On the other hand, some of the monolingual demonstrators were in support but with reservations while others stated that English should be the only language used for teaching and learning. These different opinions seem to be influenced by the language they spoke and personal experience in that the LOTE demonstrators who spoke an LOTE as home language and were already using LOTE in practical sessions with students who spoke LOTE. What this also shows is the link between language and identity. The LOTE demonstrators identify with the LOTE students and their struggles, while the English speaking demonstrators do not identify with the LOTE students or their struggles but with the status quo which has favoured English speaking students. This has a lot to do with the respective backgrounds of the demonstrators. LOTE speaking demonstrators are more aware and sensitive to the issue of language because the likelihood is that they might have gone through a similar experience like the students they are demonstrating for. On the other hand, monolingual English-speaking demonstrators have, throughout their schooling lives and in higher education, had the privilege of being taught in their home language, an advantage that Rhodes maintains for them at the expense of LOTE students. They do not seem to identify with or understand the issues of students who are learning in a second language nor the value

of LOTE in education generally, as was demonstrated by the demonstrator who said, “English *must be forced on students* at high school” (emphasis mine). What this particular demonstrator failed to see is that the low competency levels in English among LOTE students is not a result of the students’ choices. The competency is low because of the conditions under which the students learn, the conditions that universities, with their social responsibility, should not allow to continue in a democratic and transforming society.

The thoughts of the three lecturers were also interesting and shed some insights into what the teaching staff in the module thought about the use of LOTE to support learning. Lecturer-3 was in support of a situation where code switching was used instead of using a particular language. His argument was based on the heterogeneity of the classes he was teaching. This concern is the same as the one that was expressed by students and some of tutors. This is an issue that has been dealt with in previous sections, including possible ways of dealing with it. Though he believes that code switching is difficult in situations like the one he teaches in, where students speak different languages, he has in fact been able to do something similar to that. His ability to say a few words in different LOTE has made students to be comfortable in his Extended Studies classes. The fact that he is a LOTE speaker makes students identify with him and him with them, which creates a less-threatening learning environment.

Although he appreciates the role of mother tongue in education generally, he is quite sceptical when it comes to higher education and the biological/natural sciences in particular. His argument about the use of LOTE in education leading to a lack of access to information for those who were not taught through English is not a new argument; lots of people hold this view as Lecturer-2 also expressed the same view. What is interesting about this argument is the fact that there are many countries across the world that use their home languages side by side with English and are doing well like Japan and the Philippines. Back home, Afrikaans is a South African language that has been intellectualised at all levels of education, but that does not disadvantage Afrikaans speakers. In fact, it offers them an advantage over the rest of LOTE speaking students in South Africa. What is important is finding a balance between the international importance of English and ensuring that English does not act as a barrier to access to information for the majority of the citizens of a country while those who have access hide behind the international importance of English as they continue to benefit from their English competence. A number of renowned scholars (Alexander 2003, Batibo 2004, Bamgbose 1991) argue and demonstrate the importance and need of the intellectualisation of African languages in order to develop the African continent especially in the area of

development of skills, which happens through education. Batibo (2010) argues that no country in the world has ever developed on the strength of a foreign language; all developed countries have developed on the strength of their languages. Bamgbose (1991) links language, literacy, skills and development and argues that after the end of colonisation, African states tried to eradicate illiteracy through the former colonial languages but up to date those efforts have been resounding failures. He argues that the African languages should be used to eradicate illiteracy as other continents have done, using their language to educate their people, which in turn allowed them to get the skills needed by their countries in order to develop their nations.

Lecturer-2 had similar views to those held by Lecturer-3. He did not really see a role for LOTE in teaching university students because, according to him, this would be disadvantaging them since the science world out there is in English. This argument about the English being scientific and African languages being unscientific, meaning that their use will limit the interaction of Africans with the rest of the scientific world needs to be challenged, not only in the context of this study, but across the academy. It is a fact that cannot be denied that English is a powerful language across the world, but what should not be forgotten is that this was not always the case, at some point, Latin dominated the scholarly world. What those in the academy should also not forget is the role of the academy in its local context; they should be careful about being outwardly looking at the expense of the local and national community. The notion of the inaccessibility of scholarly information to African language speakers in the case of the use of African languages in higher education also needs to be challenged. This argument firstly assumes that when African languages are used in higher education that will mean doing away with English. It also assumes that English is the only language through which knowledge is produced in the world at present. According to Brand (2003: 33), the use of African languages in higher education would not mean that they would stop publishing for the international community. They would still do so through English or indirectly through translation as “this is standard practice in the higher education institutions of many non-English speaking nations”. What is most important in this debate and what all those in the academy should take note of is what Maluleke (1996) suggests when he poses the following question:

The Americans gave us Pragmatism; the French gave us deconstruction, the Germans transcendent idealism, the Latin Americans liberation theory, the Chinese Buddhism with its wealth of philosophical wisdom. What will South

African scholars offer the world if we refuse to drink from our wells?  
(Maluleke 1996, Cited in Brand: 2003: 33)

Bringing back the debate to the current study, it is worth noting that Lecturer-2 recognises that language is a major problem for some of his LOTE students, he believes that some of them are struggling with English. Even though he acknowledges this problem, he does not see LOTE as a possible solution. He believes that the only way to assist the students is through maximum exposure to English. As argued earlier, the maximum exposure theory has some flaws (cf. Chapter Four). It does not help to be exposed to a language you do not understand as was argued by (van Zyl 1961). Cummins and Swain (1986) deal with this maximum exposure issue by making reference to a number of studies that were conducted on immersion students and students that were taught through an L2. From those studies, positive results were associated with students from majority languages who were immersed into another language, i.e. English (majority language) students immersed into French (minority language). Another factor that had an impact on positive results was the status of both L1 and L2. In the positive results both L1 and L2 had social and economic status, enjoyed community support and were not at risk or threatened by another language. In the South African context, it is the opposite, though LOTE are a numerical majority, they are in the minority in controlling domains as defined by Sibayan (1999). The same goes for the second factor. For most LOTE students the L1 does not have economic and social status whereas the L2 (English) is prestigious. So in situations where the L1 is looked down upon as is the case in South Africa, students do not do well in the L2. This calls into question whether exposing students to the language will do them any good when they do not understand the input and when the conditions are not favourable for maximum exposure. This leads to the conclusion that there is a need to find an alternative approach to supporting students who speak African languages in higher education, and that approach must include their home language.

Lecturer-1 was more open to the idea of using LOTE in the Cell Biology module, he argued that lecturers do more to understand and assist their students. He argued that it was important for lecturers to be aware of the needs especially of second additional language speakers of English, because Rhodes has a lot of them as well. This is very important for lecturing staff because English-speaking lecturers sometimes do not understand what LOTE students are going through and they conclude that when these students do not do well it is their fault (the students). When lecturers have a better understanding of what is going on with the students, they stand a better chance of being able to assist students. The UCT's Strategy and Tactics

(2004: 47) document demonstrates clearly how important it is for teaching staff to be aware and take practical steps towards understanding what some LOTE speaking students go through when they reach higher education institutions. It notes that “there was a strong feeling that lecturers misunderstood what Black students were asking them and this led to frustration on both sides”. Awareness alone is not enough, though. Lecturers should take practical steps, the first step being to learn an African language. In the Rhodes context it would be taking up isiXhosa for Staff course. While this may obviously not instantly make them be fluent, what they will gain from the experience is an understanding of the language and the people who speak the language.

Lecturer-1 also argued that the curriculum could also be designed in such a way that it can include elements of the home languages of the LOTE students, mindful that including the home language did not mean doing away with English in teaching and learning. These are two very important points, Including the home languages of second additional language students in the curriculum without doing away with English is the best way forwards and it would not lead anyone being disadvantaged. In fact it would improve the situation and level the playing field, unlike what one English monolingual student claimed that forcing English on all students at school would level the playing field. This approach is called the “complementarity language use model” approach as proposed by Dua (1994, Madiba 2010, 2012), where, in the South African case, African languages can function as auxiliary media of instruction in complementarity with English. In the Cell Biology situation, the complementarity model can be implemented at the demonstrator level since the lecturers cannot speak any African language at this point, but efforts could be made to recruit at least one isiXhosa speaking academic.

## **6.7 Learning support materials**

The questionnaire responses on whether learning support materials should be provided in LOTE are quite clear about what the respondents thought about the issue. The majority of the respondents at 58% to 42% thought that learning support materials should be provided in LOTE. It is interesting though that in the question that followed the results were much closer between the affirmative (Yes) and the negative (No) responses. When the students were asked if they would use multilingual learning support materials, 52% students responded affirmatively while 48% responded negatively. On this question as well, there were more

students who were willing to use LOTE than those who were not, but the number of those who were not willing was also high. The reason why this gap is small could be because of the fact that Rhodes attracts and accepts students who mostly come from private and former Model C schools. Those students differ from ex-DET school students because they come from well-resourced schools where English was taught as a home language and was taught properly. These types of students are more likely to say they would not use multilingual learning support materials because they do not believe they need them and most of them would have learnt their home languages as additional language, and that has implications for whether they can really function in their home languages. This would be in line with Mesthrie (2008: 328) argument that one of the issues that complicate the implementation of multilingualism is the fact that there is a growing number of black students from elite backgrounds who want English at all costs. While this may be true, this is where government policies like the LPHE (2002) and the Ndebele Report (2003) become important as attempt to prevent language from acting as a barrier to access and success in higher education and ultimately the socio-economic gains that come with success in higher education. It is a fact that cannot be denied that not everyone in South Africa has good English skills. If the elite who have access are allowed to have all the access to success that will mean that the system is deliberately keeping the working class and poor out of the higher education system. It is therefore the job of the government and all those who are in positions of power to ensure that access is opened for those who are impeded by language as was the case in the past. (LPHE 2003). All the interviewed students indicated that they would be willing to use (and some were already using) multilingual learning materials like IS-1 (). This shows that if learning materials were to be made available in LOTE they would be used by students for learning purposes as they are already using whatever multilingual materials they can access at this point. There is, however, a need for the development of materials that are specific to Cell Biology, like a multilingual glossary of terms. The next section will deal with demonstrators within the Cell Biology module.

## **6.8 Demonstrator language support**

The Cell Biology module had 24 demonstrators who helped students in the practical sessions in 2014. The majority of these demonstrators were English speaking, only about five of the demonstrators were LOTE speakers and from that five, two were replacements, which means

it was in fact three LOTE demonstrators. It is problematic for a class that has 53% of students who speak LOTE to have less than 10% of their demonstrators being multilingual. LOTE students constitute a majority of in the module, but English demonstrators are in the majority. The explanation given for the low numbers of LOTE demonstrators was that demonstrating was voluntary; any postgraduate student who wished to demonstrate could apply and would be given the opportunity to demonstrate. The problem according to Lecturer-2 was that there were not enough black postgraduate students, which translates to less LOTE speaking demonstrators. This is a valid point, which means that there is a need to find creative ways of dealing with this situation. Working within the current status quo it is important that the current and new demonstrators are educated about language issues in order for them to be aware and sensitive to diversity and multilingualism in the practical sessions. This would be in line with the Rhodes Language Policy (2014: 5) as it states that academic departments will be requested to “consider training tutors to facilitate use of multiple languages in tutorials and other peer learning sessions”. This is important to deal with some of the beliefs and attitudes expressed by one of the demonstrators that students should be forced to learn English in high school as if students are refusing to learn English. This attitude leads to a belief that when students are not doing well it is all their fault, but the job of a demonstrator should be to assist the students in any way they can. It is hard to see how a demonstrator with such an attitude could be able to assist an LOTE student. In an effort to deal with the shortage of LOTE speaking demonstrators, the few LOTE demonstrators that are available could be spread out to as many laboratories as possible, so that there can be at least one LOTE demonstrator in each laboratory if possible.

The importance of multilingual demonstrators is illustrated by IS-4's point that the way some LOTE speakers phrase questions and comments in class is influenced by their home language and this sometimes leads to miscommunication between a monolingual English speaker and a bi/multilingual speaker. This is also consistent with Bokamba (1982; cf. Bamgbose 1982), both Bokamba and Bamgbose demonstrate how West African English is heavily influenced by the structures of the African languages spoken in that area. Speakers of African languages use the structures of their home languages when constructing English sentences and this can be confusing for a monolingual person. This is also consistent with UCT Strategies and Tactics (2004) that black students felt that English lecturers did not understand when they asked questions, which led to miscommunication and frustration on both sides. The availability of more multilingual demonstrators can ensure that there can be less communication breakdown.

All of the students also indicated that more multilingual demonstrators would be very helpful for them, as they feel more comfortable asking questions in their home languages. The next section will deal with the capabilities of LOTE students in their home languages.

### **6.9 LOTE students' capabilities in their home language**

From the interviews that were conducted, some of the students were worried about their competency in their home language. This concern was related to whether they would be willing to use multilingual learning materials if they were made available. They were worried that there could be words that they would not be able to understand in an isiXhosa glossary of Cell Biology terms if it were available. This concern also had a lot to do with a widely held belief by some African language speakers that their home languages are more difficult than English. The problem with that belief is that in most cases the very same people who make that argument struggle with English as well, which goes to show that any language that has not been learnt well will be difficult to understand. Brand (2003: 30) notes that competency of African language speakers in their home languages is a problem, and students would find it "equally difficult to write exams or assignments in their home language". Brand further argues that a lot of these students are not proficient in any language, or at least at the required level of proficiency for higher education. As discussed in the prerecording sections, this situation occurs because of the South African education system that switches language of instruction from home language to English before students have developed the required skills in their home language, which leads to them being proficient in neither language (Madiba 2012). The concern of these students can be dealt with by teaching them how to use any support material in the home language. This will ensure that they are not merely given a learning tool they will not be able to use, and again, this is where an LOTE speaking lecturer or demonstrator becomes very important. LOTE speaking students can also be part of the multilingual resource creation process, as Paxton (2008, 2009) demonstrates. These students will also be scientists of the future and they are already engaging with the scientific world as future scientists. They can, therefore, play a role in the development of materials as both language speakers and as future subject specialists.

The fact that some students kept on asking other students about some words and terms they did not know has to do with the fact that some of them studied their home languages as additional languages. They lacked biology terminology in their home languages, but through

interaction and discussion, they were able to come up with the relevant terminology. Having examined the written scripts as illustrated by figures 1 to 4, the written scripts were written well. There were no serious issues that point to the inability of the students to function in their home language, except for minor things i.e. spelling, one student spelled “*nzima*” as “*ndzima*”. This illustrates how students have a mistaken belief that they cannot function in their home languages. This belief, as alluded to earlier, could be based on the misconception that African languages are more difficult. Having looked at and analysed the scripts, all the students were able to articulate their answers in a coherent manner throughout the pieces. This shows that even though they are worried about their competency in their home languages, there is no serious cause for concern; they can function in their home language up to a certain point. At this point, the level of competency they have is enough to build on in an effort to develop their language skills in both the home language and in English.

## **6.10 Conclusion**

This chapter dealt with the analysis and discussion of the presented data. The analysis and discussion followed a similar structure to that of the presentation chapter: where the data was presented according to major themes that stood out in all the collected data. The different themes were analysed and related to relevant literature as it relates to the issues that came up from the data. The following chapter will deal with the findings and recommendation of this study. The analysis revealed that students used LOTE in learning situations in order to enhance their learning, the majority of the students were also open to the possibility of using LOTE in more formal learning contexts in order to support learning. Looking at the teaching staff that teaches Cell Biology, it was revealed that the majority of lecturers are English speaking, while the Extended Studies lecturer is a Shona and English speaker. English speakers also dominated the demonstrators; there were only five LOTE speaking demonstrators against 19 English-speaking demonstrators. The fact that the majority of teaching staff in the Cell biology module are English speaking poses a serious challenge for supporting LOTE students who might be struggling with language. The capabilities of LOTE students in their mother tongue was analysed and the analysis reveals that the students who were studied had enough language skills in their home language and these skills could be further developed.

## CHAPTER SEVEN

### FINDINGS AND RECOMMENDATIONS

#### 7.1 Introduction

This chapter deals with two things as the title of the chapter states. Firstly, the findings of the study will be presented and discussed drawing from the data presentation and data analysis in the last two chapters. The findings are in line with the goals of this study as articulated in Chapter 1. Secondly, and based on the findings of the study, recommendations will be made as to what interventions can be made in order to deal with some critical issues regarding multilingualism and the use of LOTE at Rhodes and other universities in South Africa. The conclusion will wrap up the study and will point to some areas directly related to this study that could not be investigated that still need further research. These could be areas that were beyond the scope of this current study which are nevertheless important in the realisation of the use of African languages to support learning for second language speakers of English and for the broad intellectualisation of African languages project.

#### 7.2 Findings

This study has discovered that between 2002 and 2013, with the exception of 2003, students who speak English as a home language outperformed LOTE students in the Cell Biology module at Rhodes University. In the year 2003, when LOTE students performed better than English speaking students. The analysis indicates that most of the LOTE students were not South African but Zimbabwean students who seem to fare better than the former while competing well with English-speaking students. From 2004, the numbers of South African LOTE students studying Cell Biology increased, while their marks decreased. It is on this basis that language was affirmed as a key factor in the Cell Biology student performance patterns for the decade spanning between 2003 and 2013.

Admittedly, the pattern of underperformance of LOTE students can be attributed to other factors such their social and financial backgrounds, which have far-reaching consequences

for their schooling and under-preparedness of some students for higher education. These factors do not rule out language as a factor. Rather, they are inextricably connected. For example, students from poor socio-economic backgrounds who cannot afford private and Ex Model C schools are left with no choice but to attend public schools, which quite often offer a much lower quality of teaching and learning. The language-in-education practices in those contexts are diametrically different from the policy, which elevates English above African languages. Although English is the official medium of instruction, teachers use the home languages of the students to support the students' cognition. The very same students get to university and they do not have the benefit of a lecturer who can explain the work in their home language as was done in the past. This might very well be one of the causes for the under-performance of LOTE students, which was also confirmed by the students who were interviewed and those who completed the questionnaire. Therefore, besides the university requiring an advanced engagement with knowledge in the different academic disciplines, the stricter adherence to English as the dominant if not sole academic language by largely monolingual academics makes the university even more alien to a significant population of LOTE students.

It has also been discovered that English home language students constitute 47% of the Cell Biology students, while LOTE students constitute 53%. From this 53%, about 30% of the LOTE students are Nguni language speakers, from that 30% about 21% are isiXhosa speaking students. This finding about numbers is important because it validates the recommendations of the Ndebele Report (2003) about universities choosing an indigenous language based on the regional demographics to develop as a medium for the future. This finding is also in line with Rhodes University's Language Policy (2014), which recognised isiXhosa as one of the three official languages of the university and the language earmarked for development as an alternative medium of instruction.

The finding about the linguistic composition of teaching staff is that all the mainstream Cell Biology lecturers were English speaking. None of the mainstream lecturers could speak an African language, except for the bilingual Extended Studies lecturer who speaks Shona as a mother tongue and English as a second language. It was also the same situation with the Cell Biology demonstrators, with the majority of them (19 out of 24) being white English speakers. For the year 2014, there were only five black LOTE speaking demonstrators, two of

them being replacements who joined during the course of the year, which means that the module started with only three LOTE demonstrators for the module.

As far as the use of LOTE in learning situations is concerned, it was discovered that students used LOTE, particularly isiXhosa in learning situations to communicate with each other, especially during practical sessions. This use of isiXhosa during practical sessions happened especially when students were struggling with their practical assignments. The students would then converse in isiXhosa with other isiXhosa/isiZulu speaking students seating next to them. This shows that there was a link between the choice to use isiXhosa and struggle with academic tasks whose instructions are largely presented in English language generally and the Cell Biology register. This is made clear by the fact that when students were able to conduct the practical assignment, there was little to no talking. Studies conducted by among other Paxton (2009, 2008; Bangeni and Kapp 2007; Madiba 2012, 2014) demonstrated how LOTE students use their home languages during discussions in order to aid their understanding of the content they would be dealing with at a particular point. Therefore, what this study has found is similar to what has also been observed in other South African institutions of higher learning, which make the case for African languages in South African higher education even more urgent.

One of the goals of this study was to investigate why students who use LOTE chose to do so. This was probed when students who had been observed using LOTE were interviewed. The finding on this goal was that students used their home languages because they understood them better than they did English, and using the home language made the learning process better. The use of the home languages by students when they struggled is in line with arguments made by Obanya (2004; Batibo 2004) about how the language policies of most African countries differ hugely with actual practice as teachers resort to using the home language alongside the official medium of instruction (mostly English or French) in order to support students. In most working class and poor community public schools, code switching between the home language and the medium of instruction is a normal practice and an attempt by the teachers to reach their students. This happens throughout high school and these students carry this over to higher education, where unfortunately they do not get the same benefit of code switching with lecturers.

On the perceptions of role players about the formal use of LOTE in teaching and learning, it was found that students were in full support of the use of LOTE (isiXhosa) to support

learning in higher education, particularly in the Cell Biology module. The students that were interviewed supported the use of LOTE in teaching and learning in higher education. Data from the questionnaire survey also indicated that the majority of students were in support of learning materials being provided in LOTE. The main lecturers were divided about the use of LOTE in teaching and learning. Students were also cautious and unsure about how isiXhosa could be used in a highly multilingual environment like the Cell Biology module. One of the lecturers was in support of the use of LOTE and incorporating elements of the students' home language in teaching materials, while the other thought that using LOTE would be disadvantaging the students in the long run. The Extended studies lecturer also thought that using LOTE would disadvantage students because the academic scientific world is in English. The demonstrators were also divided, with the multilingual demonstrators supporting the use of LOTE in the Cell Biology module, while most of the monolingual English speaking demonstrators thought that English as the medium of instruction should be used as the only language in teaching and learning.

On learning support materials, 58% of the surveyed students thought that learning support materials should be provided in LOTE. Also, when asked if they would be willing to use multilingual support materials, 52% of the respondents indicated that they would be willing to use multilingual support materials. The finding on this point is that students supported and were willing to use multilingual learning support materials if they were made available. It was also discovered that some of the interviewed students were already using multilingual support materials that they have sourced on their own.

On demonstrators, it was found that there were simply not enough multilingual demonstrators in the Cell Biology module. In a class that had a high number of LOTE speaking students (54%), LOTE demonstrators did not even constitute 50% of the demonstrating staff. The interviewed students thought that having more multilingual demonstrators would make it easier for students to approach demonstrators and more multilingual demonstrators would be able to help students in their home languages.

Finally, through the competency exercise, it was also found that the students who took part in the exercise could write in a communicatively appropriate manner and could also write in a grammatically appropriate manner. There were some problems with the spelling of some of the students, but for the most part they could write in a grammatically appropriate manner. Even though the students who took part in the exercise were worried about their ability to use

their home language, it was discovered that they are not as incompetent as they seemed to think they were. Their competency in the home language (isiXhosa) presented an opportunity and a platform on which to build upon towards the implementation of multilingual higher education in South Africa.

### **7.3 Recommendations**

Based on the findings that have been presented in the previous sections, a number of recommendations can be made on what could be done to implement multilingualism and support LOTE students in the Cell Biology module. A number of the findings made above directly relate to the goals of this study. Those findings are the use of LOTE in teaching and learning situations by students and the reasons for that usage. The extent to which the use of the home language can support LOTE students in learning was addressed through the competency exercise whose finding was that students could function in their home language up to a certain level. A finding was also made about the perceptions of all the role players in the Cell Biology module about the use of LOTE to support learning. The fourth goal of this study was to make recommendations based on what the data shows on how multilingualism can be implemented in the Cell Biology module.

The *first recommendation* is about teaching staff for the Cell Biology module. Though the module has a very multilingual group of students, there are very few multilingual lecturers and demonstrators. The university and the Biological Sciences and Botany departments should make all possible efforts to recruit multilingual lecturers in the future to ensure that there is diversity and multilingualism in their ranks. This is important and will achieve two things. Firstly, it will go a long way in enabling teaching staff to get through to a diverse group of students through language and awareness about the difficulties of some of the students. Secondly, recruiting a multilingual lecturer/s would also be a step towards achieving transformation and transforming institutional culture, which Jansen (2004: 124) argued is controlled by decisions taken at certain “points of power” such as academic departments. Recruiting multilingual lecturers for the module does not need to happen overnight. The above-mentioned departments could identify talented African language speaking postgraduate students that they could develop into lecturers of the future. While doing their post-graduate studies, these students could be given small teaching roles in the Cell Biology

module and other modules within the two departments. This will ensure that in the short term there is an increase in multilingual lecturing assistants and in the long term this would ensure that there would be an increase in multilingual academics in the Biological Sciences and Botany departments.

The *second recommendation* is on demonstrators. As mentioned in the findings, there too few multilingual demonstrators doing the demonstration work in the Cell Biology module. As discussed in Chapter Six above, the explanation given for the low number of multilingual demonstrators was that demonstrating was voluntary, students had to apply for it and whoever applies most of the time gets the opportunity. The other argument was that a lot of African language speaking students leave the academy after they finish their first degrees. Similar to the recommendation above, the two departments must look at the bigger picture, which is ensuring that the next generation of multilingual/cultural/racial academics is produced, and ensuring access and success for all students who undertake their junior degrees at Rhodes.

Making funding available for students who are interested in pursuing Honours and Masters degrees is one of the ways through which the departments can feed into the bigger picture. These funds should be generous enough to ensure that students that have financial difficulties will not be pressured to go find work or struggle to finish their degrees because their funding makes them uncomfortable. Vincent (2014) argues that funding mechanisms in the South African education system are short sighted as they make funds available towards the end (PhD level). She argues that there should be a focus on the Honours and Masters students as well, funds should be made available at these levels because this is where a lot of students are lost to the academy.

In the short term, though, the subject co-ordinator must strategically use the few multilingual demonstrators available. The plan should be to at least have one of the two demonstrators in each laboratory to be a multilingual African language (especially isiXhosa) speaking demonstrator. This will ensure that there is at least one LOTE speaking demonstrator in each laboratory. In the case where numbers are so low that it is impossible to have at least one multilingual demonstrator, what could be done is that the multilingual demonstrators available could play a rotating role across the laboratories. They could spend the three hours of a practical session moving around the four laboratories and making themselves visible and useful to the target students. The rest of the demonstrators need to be trained and taught about

issues diversity and multilingualism in the South African education and higher education system. This is important to deal with some of the attitudes displayed by some of the demonstrators.

The *third recommendation* is about the creation of spaces where students can get extra lessons through their home languages. One of the students who were interviewed proposed an ADP (Academic Development Programme) that can be conducted in isiXhosa. An ADP that will be conducted by an isiXhosa/isiZulu-speaking lecturer should be created to accommodate the Nguni speaking students who constitute about 30% of the Cell Biology students. The creation of an ADP in isiXhosa would be in line with the recommendations of the Ndebele Report (2003) and Rhodes University's Language Policy (2014) on the development of isiXhosa as an academic language for the future. Resources permitting, another ADP group could be created for Sotho language speakers. The researcher says resources permitting because none of the Sotho languages are recognised by Rhodes's Language Policy, but the Ndebele Report urges universities to take positive steps towards adopting languages that are not in the majority in a particular province/region and develop them in order to foster multilingualism. This multilingual ADP must be announced to all Cell Biology students and broadcast to them through emails, they must be reminded about its existence in all their Cell Biology classes and practical sessions. It must be presented to students as something "cool" with a relaxed environment where a "cool" lecturer (i.e. one of the PhD candidates in recommendation number one) will be conducting the ADP in isiXhosa/English and students encouraged to ask questions in any Nguni language.

The development of support learning materials in isiXhosa is the *fourth recommendation*. With the majority of students saying that support learning materials should be provided in LOTE and also saying that they would use the materials if they were available means something needs to be done to develop the materials. The development of multilingual glossaries is one of the ways through which support learning materials could be created. The academic desirability of glossaries to fast track concept development is well argued for in Madiba (2010: 226), as it is argued, "the development of these glossaries constitutes an important intervention strategy to optimise concepts learning in different content areas". Again, with the availability of funds, the Biological Sciences and Botany departments should get in contact with the African languages department and embark on a multilingual glossary development project for Cell Biology module. The African Languages department at Rhodes

should play a role in the project as isiXhosa language specialist, while Biological Sciences and Botany people would be subject specialist. Unfortunately, as things stand, there are no multilingual Cell Biology specialist who speak isiXhosa at Rhodes, which complicates things slightly because linguists will need guidance from a subject specialist. Paxton (2007, 2009) demonstrated that guided by a single multilingual subject specialist, students can also take part in the terminology development process, because as they try to make sense of the concepts, they do so in their home languages, which leads to terms and concepts being created in African languages. The proposed partnership between the Biological Sciences and Botany departments with the African languages department for creating glossaries should be a quick short term measure, because there has been an over reliance on the African Languages department for the implementation of multilingualism at Rhodes. As a public institution, Rhodes is required by law to establish a Language Unit to drive the implementation of multilingualism. It is this Language Unit that should drive the process of actual development of learning materials amongst other responsibilities put on the Language Units by the Use of Official Languages Act (2014). Also, the Ndebele Report (2003) proposes co-operation between universities that are developing a particular language so as to avoid duplication of efforts, this co-operation would work very well for the development of glossaries. In the case where there is no subject specialist who can speak isiXhosa at Rhodes, the people in charge of the glossary project can ask for assistance from subject specialist who speak isiXhosa from the other six universities that are supposed to be developing isiXhosa as a medium of instruction for the future as proposed by the report.

The Language Committee, as the institutional body that has been tasked with looking at language issues at Rhodes has a big role to play. The Language Committee must be credited for the Language Policy and review thereof, but now their focus must shift from policy to the implementation of the policy. All of these recommendations made in this study should, from an institutional wide perspective be driven by the Language Committee. The *fifth recommendation* is that the Language Committee should commission research studies that seek to implement some of the recommendations of this study, in order to see about their applicability and possibility of rolling out multilingualism as proposed in this study.

#### **7.4 Areas for further research**

There are some areas of further research that this study could not investigate and those are areas in need of further investigation. This study sought to look at issues of language and learning in the Cell Biology module at a broad level, and taking the university's language policy as the guiding document and looking at the extent to which the policy has been implemented within the Cell Biology context. A number of the findings of this study are still in need of further research as they have simply been presented in this study and recommendations made in order to deal with some of them. The persistent underperformance of LOTE students needs to be further investigated in order to get empirical findings as to why exactly it is that they underperform. In this study inferences have been made about the possible reasons, but this study identified language as one of the possible reasons, but not the only reason why LOTE students have not been doing as well as English speaking students.

There is also a need for further research to be conducted on the practical development of support learning materials and the implementation of the use of those developed materials for use in teaching and learning. An MA study also within the African languages department that was being conducted at the same time as this study will make recommendations about how terminology can be developed for African languages using corpus based computer software. The recommendations of that study also need to be looked at in order to adapt them for the Cell biology context.

With the availability of funds and the creation of space in the Cell Biology module as was done for this study, all of the recommendations of this study could be practically implemented as a pilot study. Using one or two demonstrators and LOTE speaking PhD students (as proposed in the recommendation), learning materials could be created and an isiXhosa ADP could also be created and the recommendations of this study could be implemented on a small scale in order to see what will happen.

#### **7.5 Conclusion**

This chapter outlined the findings that have been made based on the data that was collected in the Cell Biology module. The findings of this study were also followed by recommendations

based on the findings made. The recommendations that were made in this chapter seek to find ways through which multilingualism in the Cell Biology module can be implemented in an effort to better support LOTE speaking students doing the module in the future. These recommendations also seek to feed into the bigger project of the intellectualisation of African languages for use in higher education in the future. Areas that need further research were also outlined and these were also based on the recommendations made. The areas for further research relate to issues and questions that could not be dealt with in this study, those are issues that still need to be further investigated.

## **CHAPTER EIGHT**

### **SUMMARY AND CONCLUSION**

This study presented and analysed issues of language and learning at Rhodes University within the context of the Cell Biology module offered between the Biological Sciences and Botany departments. This study took Rhodes University's Language Policy as the basis for the inquiry, with a view to looking at the extent to which Rhodes University and the Botany and Biological Sciences departments are implementing multilingualism in teaching and learning practices. The implementation of multilingualism in this study, as indicated above, was analysed in line with the Rhodes University Language Policy (2014) which draws from the Language Policy for Higher Education (2002) and the Report on the Development of Indigenous African Languages as medium of instruction in South African Higher Education Institutions (2003). All of the above mentioned documents draw from the Constitution of the Republic of South Africa (1996), which seeks to elevate the status of the previously marginalized indigenous African languages.

The first chapter introduced the study and outlined the background of the study and the key goals that this study is meant to achieve. This chapter was meant to introduce the reader to the study, to Rhodes University and to the main role players in the study

Chapter Two gave a historical background of the language question in South Africa with a particular reference to isiXhosa. In Chapter Two the linguistic history of South Africa is discussed from the arrival of Dutch, which later became Afrikaans and the later arrival of English to South African shores. These two languages are discussed in relation to isiXhosa and how isiXhosa developed through mission schools and some of the major role players who reduced isiXhosa from an oral language to a written language. There are a number of significant periods in language planning that South Africa has gone through. Those periods and their impacts on South African language planning have led to the current legacies today's language planners have to deal with. Those legacies for the most part have to do with the unequal treatment of English/Afrikaans and all the indigenous African languages that were included in the 1996 Constitution of South Africa.

In Chapter Three, literature that relates to the goals of this study was discussed. The literature covered a number of relevant topics in the area of language and education. Literature that focuses on language and learning, particularly learning for bilingual students was discussed,

as it was very relevant for this study, which deals with bi/multilingual students. There was also a section, which dealt with literature about African languages in higher education, and how they can or are being used to support learning for English Additional Language students. Transformation in higher education was also discussed, as it is still remain a major issue in South African higher education.

Chapter Four dealt with the methodology of the whole study. It is in the methodology chapter where the steps taken to collect the data were outlined and the decisions taken justified. This study was conducted as a single exploratory and evaluative case study of the implementation of multilingualism in higher education at Rhodes University.

The collected data was presented in Chapter Five. The data was presented following a thematic approach through which it was categorised according to related themes. The data was then analysed in Chapter Six. The data analysis also followed the thematic approach to data analysis, the themes that came up in chapter five were analysed discussed and related to relevant data that spoke to the themes.

Chapter Seven discussed the findings of the research, which indicated that LOTE students used LOTE in learning situations because they thought that they understood their home languages better than they did English and they also thought that using their home languages helped them learn better and quicker. It was also discovered that there were not enough LOTE speaking demonstrators in the Cell Biology module. Another key finding of this study was that the majority of students were in support of the formal use of isiXhosa to support learning in the module, while the English speaking demonstrators were mostly in support of the use of English alone. Lecturers were divided about the use of LOTE in learning. One supports the idea, while two thought that using LOTE would disadvantage students in the long run.

The key recommendations of this study were that the university should make efforts to increase LOTE speaking teaching staff both lecturers and demonstrators. There should also be space created for the use of LOTE by students who wish to do so through the creation of a multilingual ADP class. There should also resourced put into the creation of multilingual teaching materials as students indicated that they do use and would be willing to use support learning materials in LOTE.

## Bibliography

- Alexander, N. 2000. *English unassailable but unattainable. The dilemma of language policy in education in South Africa*. PRAESA Occasional Papers No. 3. Cape Town: PRAESA.
- Alexander, N. 2003. *The African Renaissance and the use of African languages in Tertiary Education*. PRAESA Occasional Papers No. 13. Cape Town: PRAESA.
- Babbie, E. Mouton, J. 2001. *The Practice of Social Research*. Cape Town: Oxford University Press.
- Badat, S. 2009. 'The role of higher education in society: valuing higher education'. Cape Town: HERS– SA Academy, University of Cape Town Graduate School of Business.
- Badat, S. 2013. *Higher Education Today*. Available from <https://www.youtube.com/watch?v=plCOZfYeaQ>. Accessed 16 November 2014.
- Badat, S. 2014. *Vice Chancellor's Welcome*. Available from <http://www.ru.ac.za/vicechancellor/latestnews/drsizwemabizelaswelcomemesagetofirstyears.html>. Accessed 19 November 2014.
- Baker, C. 2001. *Foundations of Bilingual Education and Bilingualism 4th edition*. USA: Multilingual Matters.
- Baker, T. L. 1988. *Doing Social Research*. New York: MacGraw-Hill Book.
- Bamgbose, A. 1982. Standard Nigerian English. In: Kachru, Braj B. Ed. *The other tongue: English across cultures*. Urbana: University of Illinois Press.
- Bamgbose, A. 1991. *Language and the Nation: The Language Question in Sub Saharan Africa*. Edinburg: Edinburg Press.
- Bamgbose, A. 2000. International Association for World Englishes (IAWE) and World Englishes: which way forward? In: L. E. Smith and M. L. Forman, V. Eds. *World Englishes*. Honolulu, HW: University of Hawaii Press. 204–8.

- Bangeni, A. 2001. *Language genre, cultural capital: a case study of EAL access to a foundation course in the Humanities at UCT*. Unpublished master's minor MPhil dissertation. University of Cape Town.
- Bangeni, B. Kapp, R. 2008. "Shifting language attitudes in a linguistically diverse learning environment in South Africa". *Journal of Multilingual and Multicultural Development* 28 (4) pp. 253-269.
- Barkhuizen, G. P. 1998. "Discovering Learners' Perspectives of ESL Classroom Teaching/Learning Activities in a South African Context". *TESOL Quarterly* 52 (1) pp 85-105.
- Batibo, H. 2004. The Role of Minority Languages in Education and Development in Africa. In *The Language Web: Essays in Honour of Victor Webb*. Port Elizabeth University of Port Elizabeth.
- Batibo, H. 2010. The use of African languages for effective education at tertiary level. In *Terminology Development for the Intellectualisation of African Languages*. Maseko, P. Ed. PRAESA Occasional Papers. No. 38. Cape Town: PRAESA.
- Bokamba, A. 1982. The Africanisation of English. In: Kachru, Braj B. Ed. *The other tongue: English across cultures*. Urbana: University of Illinois Press.
- Boughey, C. 2005. "Epistemological Access to the University: An Alternative Perspective". *South African Journal of Higher Education* 19 (3). pp 230-42.
- Bryman, A. 2012. *Social Research Methods*. Oxford: Oxford University Press.
- Burnaby, B. 1976. Language in native education. In: Swain, M. Ed. *Bilingualism in Canadian education: Issues and research*. Vol 3. Western Industrial Centre Edmonton, Alberta. Yearbook of the Canadian Society of the Study of Education. 65-85.

- Brand, C. 2003. "Imagining a multilingual academy: rethinking language in higher education". *South African Journal of Higher Education* 17 (3). pp 26-35
- Carey, S.T. Cummins, J. 1983. "Achievement, behavioural correlates and teachers' perceptions of Francophone and Anglophone immersion students". *Journal of Educational Research* 29. 159-167.
- Chew, P. 2006. *Emergent Lingua Francas and World Orders: The Politics of English as a World Language*. Oxford: Routledge.
- Cohen, L. Morrison, K. & Manion, L. 2007. *Research methods in education*. London: Routledge.
- Combrink, J. 1978. Afrikaans; Its origin and development. In: L.W. Lanham and K. P. Prinsloo. Eds. *Language and Communication studies on South Africa*. Cape Town: Oxford University Press. pp. 69-95.
- Constitution of the Republic of South Africa*. 1996. Pretoria: Government Printer.
- Council on Higher Education. 2007. *Higher Education Monitor. A Case for Improving Teaching and Learning in South African Higher Education. No.6*. Pretoria: Council on Higher Education.
- Council on Higher Education. 2010. *Higher Education Monitor.. Teaching Learning and beyond Formal Access*. Pretoria: Council on Higher Education.
- Crystal, D. 2003. *English as a Global Language*. Cambridge/New York: Cambridge University Press.
- Cummins, J. 1979. *Cognitive academic language proficiency, linguistic interdependence, the optimum age question and some other matters*. Working paper on Bilingualism 19. 197-225.
- Cummins, J. 1981c. Age on arrival and immigrant second language learning in Canada: a reassessment. *Applied Linguistics* 2.132-149.

- Cummins, J. 2000. *Language, Power and Pedagogy. Bilingual Children in the Crossfire*. Clavedon: Multilingual Matters.
- Cummins, J. Swain, M. 1986. *Bilingualism in education: aspects of theory research and practice*. London: Longman.
- Dalvit, L. De Klerk, V. 2009.” Attitudes of Xhosa-speaking students at the University of Fort Hare towards the use of Xhosa as a language of learning and teaching” (LOLT). *Southern African Linguistics and Applied Language Studies* 23(1): 1–18.
- Dalvit, L. Terzoli, A. Murray, S. Mini, B. Zhoa, X. 2005.” Producing and sharing ICT based knowledge through English and African languages at a South African university”. *South African Journal of Higher Education* 19 (Special Issue). pp. 1486 -1498.
- Davenport, T. R. H. 1991. *South Africa – A Modern History* (4<sup>th</sup>edt) London: Macmillan.
- De Kadt, E. 2005.” English, language shift and identities: a comparison between ‘Zulu dominant’ and ‘multicultural students on a South African university campus’”. *Southern African Linguistics and Applied Language Studies* 23 (1). 19–27.
- Department of Education. 1997. *Language in Education Policy*. Pretoria: Government Printers.
- Doke, C. M. 1959. Bantu Language Pioneers of the Nineteenth Century. *African Studies* 18. pp. 1-27.
- Dolson, D. 1984. *The influence of various home bilingual environments on the academic achievement, language development, and psychosocial adjustment of fifth and sixth grade Hispanic students*. Unpublished doctoral dissertation. University of San Francisco.
- Dua, H. 1994. *Hegemony of English*. India: Mysore.

- European Commission. 2007. *Commission of the European Communities, Final Report, High Level group on Multilingualism*. Luxembourg: European Commission.
- Fetterman, D, M. 2010. *Ethnography: step by step*. United States of America: SAGE Publishers.
- Fishman, J. 1968. National Languages and Languages of Wider Communication in the Developing Nations. In: Whiteley, W. H. Ed. *Language Use and Social Change*. Oxford: Oxford University Press. pp. 27-56.
- Fishman, J. A. 1976. *Bilingual education: an international perspective*. Massachusetts: Newbury House Rowley.
- Fleisch, B. 2002. State Formation and the Origin of Apartheid. In: Kallaway, P. Ed. *The History of Education Under Apartheid 1948-1994*. Cape Town: Muskw Miller Longman.
- Flyvbjerg, B. 2006. "Five Misunderstandings About Case Study Research". *Qualitative Inquiry* 12 (2). pp 219-245.
- Gambushe, W. 2012. *The use of African languages in teaching and learning environments in higher education, with particular reference to isiXhosa at Rhodes University*. Unpublished Honours Paper. Rhodes University.
- Gardner, R. C. Lambert, W. E, 1972. *Attitudes and motivation in second language learning*. Massachusetts: Newbury House. Rowley,
- Genesee, F. 1978c. "Is there an optimal age for starting second language instruction?" *McGill Journal of Education* 13. 145-154.
- Giliomee, H. 2003. *The rise and possible demise of Afrikaans as a public language*. PRAESA Occasional Papers No. 14. Cape Town: PRAESA.

- Grobler, E. Prinsloo, K. P. van der Merwe, J. I. 1990. *Language Atlas of South Africa: Language and Literacy Patterns*. Pretoria: Human Sciences Research Council.
- Hartshorne, K. 1992. *Crisis and Challenge: Black Education 1910-1990*. London: Oxford University Press.
- Heugh, K. 2011. Theory and practice – language education models in Africa: Research, design, decision-making and outcomes. In: Oune, A. & C. Gianz. Eds. *Optimizing learning, education and publishing in Africa: The language factor. A review and analysis of theory and practice in mother-tongue and bilingual education in sub Saharan Africa*. Tunis Belvedere: UNESCO, UNESCO Institute for Lifelong Learning, Association for Development of Education in Africa. 105-176.
- Hibbert, L. van der Walt, C. 2014, African Languages in Higher Education: Lessons from Practice and Prospects for the Future. In: Hibbert, L. van der Walt, C. Eds. *Multilingual Universities in South Africa: Reflecting Society in Higher Education*. Bristol: Multilingual Matters.
- Hua, Z. David, A. 2008. Study design: Cross-sectional, longitudinal, case, and group. In: Wei L. & Moyer. M. G. Eds. *The Blackwell Guide to Research Methods in Bilingualism and Multilingualism*. Oxford: Blackwell. pp. 88 – 107.
- Jansen, J. 2004. “Changes and continuities in South Africa's higher education system, 1994 to 2004”. In: Chisholm, L. Ed. *Changing class: Education and social change in post-apartheid South Africa*. Pretoria: Human Science Research Council Press. pp. 293–314
- Jansen, J. D. 2008. “But Our Natives Are Different! Race, Knowledge and Power in the Academy”. *Social Dynamics: A Journal of African Studies* 24 (2). pp 106 -116.
- Jordan, A. C. 1973. *Towards African Literature: The Emergence of Literary Form in Xhosa*. Berkley. Los Angeles. London: University of California Press.
- Kamwangamalu, N. M, 2000. “A new language policy, old language practices: status

planning of African languages in a multilingual South Africa". *South African Journal of African Languages*. 20 (1).

Kamwangamalu, N. M. 2004. The Language Planning Situation in South Africa. In: Kaplan, B jr, Baldauf, R. B. Eds. *Language planning and policy: Africa, Vol 1 Botswana, Malawi, Mozambique, and South Africa*. UK: Multilingual Matters.

Kaschula, R.H. Maseko, P. Mapi, T. Nosilela, B. Dalvit, L. Nelani, L. Sam, M. 2009. An intercultural approach to implementing multilingualism at Rhodes University, South Africa. *Stellenbosch Papers in Linguistics PLUS* 39. pp 45-61.

King, M. Van der Berg, O. 1992. *One nation, many languages: what policy for schools?* Centaur Pretoria: Publications in association with the Independent Examinations Board.

Koch, E. Burkett, B. 2005. "Making the role of African languages in higher education a reality". *South African Journal of Higher Education*. 19 (6).

Labov, W. 1973. The logic of nonstandard English. In: Keddie, N. Ed. *Tinker tailor; the myth of cultural depravation*. Penguin.

Lass, R. 1987. *The Shape of English: Structure and History*. J. M. Dent and Sons.

Lambert, W.E. 1977. The effects of bilingualism on the individual: Cognitive and sociocultural consequences. In: P. A. Hornby. Ed. *Bilingualism: Psychological, social and educational implications* .New York: Academic Press.

*Language Policy Framework for South African Higher Education*. 2001. Pretoria: Government Printers.

*Language Policy for Higher Education*. 2002. Pretoria: Government Printers.

Madiba, M. 2012. Language and Academic Achievement: Perspectives On The Potential Role Of Indigenous African Languages as Lingua Academica. *Per Lingua* 28 (2):15-27.

Madiba, M. 2004. "Treading where angels fear most: The South African Government policy on Higher Education and its implications". *Alternations* 11 (2): 26-43.

Madiba, M. 2008. "Towards a Model for Terminology Modernisation in the African languages of South Africa". *Language Matters: Studies in the languages of Africa* 32 (1). 53-77.

Madiba, M. 2010. "Towards a Model of Terminology Modernisation in the African Languages of South Africa". *Language Matters: Studies in the Languages of Africa* 32 (1). 53-77.

Madiba, M. 2011. "Fast-tracking Concept Learning to English as an Additional Language (EAL) Students through Corpus-based Multilingual Glossaries". *Alternation* 17(1). 225-248.

Madiba, M. 2014. Promoting concept Literacy through Multilingual Glossaries: A Translanguaging Approach. In: Hibbert, L. Van der Walt, C. Eds. *Multilingual Universities in South Africa: Reflecting Society in Higher Education*. Bristol: Multilingual Matters.

Mahlalela-Thusi, B. Heugh, K. 2002. "Unravelling some of the historical threads of mother-tongue development and use during the first phase of Bantu Education (1955-75)". *Perspectives in Education* 20 (1): 241-257.

Makalima, R. G. S. 1981. *An assessment of the educational implications of the development of Xhosa as a written medium from 1820 to 1950: a historical didactical analysis*. Unpublished MA thesis. Alice: University of Fort Hare.

- Maseko, P. 2014. Multilingualism at Work in South African Higher Education; From Policy to Practice. In: Hibbert, L. van der Walt, C. Eds. *Multilingual Universities in South Africa: Reflecting Society in Higher Education*. Bristol: Multilingual Matters.
- Maluleke, T. S. 2003. *African culture, African intellectuals and the white academy in South Africa: some implications for Christian theology in Africa*. Available at: <http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=7355>.
- Mashele, P. Qobo, M. 2014. *The Fall of the ANC, What Next?* Johannesburg: Pan McMillan.
- Mbude-Shale, N. 2013. *Eploring the correlation between language medium and academioc achievement: A comparative study of the language of teaching and learning (LoLT) and mathematics results in the 2012 Grade 12 National Senior Certificate examination in the Eastern Cape*. Unpublished MA thesis. Rhodes University.
- Mclean, D. 1992. Guarding Against the Bourgeoisie Revolution: Some Aspects of Language Planning in the Context of National Democratic Struggle. In: Robert, K, Herbert. Ed. 1992 *Language and Society in Africa. The Theory and Practice of Sociolinguistics*. Witwatersrand University Press: Johannesburg.
- Mesthrie, R. 2008. Necessary Versus Sufficient Conditions for Using New Languages in South African Higher Education: A Linguistic Appraisal. *Journal of Multilingual and Multicultural Development* 29 (4). pp 225-340.
- Miti, L. 2009. "Fact and fiction: Descriptions of the languages of Southern Africa by early missionaries." *The role of the Missionaries in the Development of African Languages*. Rondebosch: Centre for Advanced Studies of African Societies.
- Mtuzi, P. T. 2004. *Introduction to Xhosa Culture*. Alice: Lovedale Press.
- Ndebele, N. 1987. The English Language and Social Change in South Africa. *The*

*English Academy Review* EAR 4. pp.1-16. Johannesburg: English Academy.

Nichols, G. 1961. *South Africa in My Time*. London: George Allen and Unwin.

Ndlovu, S.M. 2006. *Soweto Uprising: Soweto*. South African Democracy Education Trust. Pretoria: Unisa Press.

Nel, B. F. 1942. *Naturelle Opvoeding en Onderwyser in n Cristelike –Nasionnale Stelselle*. Bloemfontein: Nasionnale Pers.

Ngubane, B. 1995. Statement by Minister of Arts and Culture. In: *LANGTAG Report*. Pretoria: Government Printer.

Ngugi, W. 1987. *Decolonising the Mind: The Politics of Language in African Literature*. London: John Currey.

Nkabinde, Z. P.1997. *An Analysis of Educational Challenges in the New South Africa*. Lanham New York, Oxford: University Press of America.

Obanya, P. 2004. *Learning In, With and From the First Language*. PRAESA Occasional Papers .19. Cape Town: PRAESA.

PanSALB Act (1995). Government Printers.

Paxton, M. 2007.” “You would be a Master of a Subject if Taught in Xhosa...”: An Investigation into the Complexities of Bilingual Concept Development in an English Medium University in South Africa”. *The International Journal of Learning* 14 pp. 61-67.

Paxton, M. 2009.” It’s easy to learn with your home language, but with English you have to learn language before you get to the concept: bilingual concept development in an English medium university in South Africa”. *Journal of Multilingual and Multicultural Development* 30:4. 345-359.

- Pennycook, A. 2002. Language Policy and Docile Bodies: Hong Kong and Governmentality. In: J. W. Tollefson. Ed. *Language Policies in Education*. Lawrence Erlbaum Associates: London. 91-110.
- Perkins, D 2007. Theories of Difficulty. In: Entwistle, N & P Tomlinson. Eds. *Student Learning and University Teaching*. Leicester: The British Psychological Society.
- Perkins, D 2009. *Making Learning Whole. How Seven Principles of Teaching can Transform Education*. San Francisco: Jossey Bass.
- Ponelis, F. 1993. *The Development of Afrikaans*. (Duisberger Arbeiten zur Sprach und Kulturwissenschaft). Frankfurt am Main: Peter Lang.
- Prah, K. Ed. 2009. *The role of the Missionaries in the Development of African Languages*. Rondebosch: Centre for Advanced Studies of African Societies.
- Rhodes University. 2005. *Language Policy*. Grahamstown: Rhodes University
- Rhodes University. 2014. Zoology.  
<http://www.ru.ac.za/zoologyandentomology/studying/undergraduate/zoology/>  
 Accessed 19 November 2014.
- Rose, B. Turner, R. 1973. *Documents in South African Education*. Johannesburg. Ad Donker.
- Sager, J.C. 1990. *A Practical Course in Terminology Processing*. UK: John Benjamins.
- San Diego City Schools. 1982. *An exemplary approach to bilingual education: a comprehensive handbook for implementation from elementary-level Spanish English (immersion programme)*. San Diego City Schools.
- Schleef, E. 2014. Written Questionnaires in Sociolinguistics. In: Holmes, J. Hazen, K. Eds *Research Methods in Sociolinguistics*. West Sussex: Wiley Blackwell.

- Scott, I, Yeld, N & Hendry, J, 2007. A Case for Improving Teaching and Learning in South African Higher Education. *Higher Education Monitor*. 6. Pretoria: CHE.
- Seidman, I. 1998. *Interviewing as Qualitative Research: A Guide for Researchers in Education and the Social Sciences*. New York: Teachers College Press.
- Sibayan, B. 1999. The Intellectualisation of Filipino. Manila: *The Linguistics Society of the Phillipines*.
- Silverman, D. 2010. *Doing qualitative research; a practical handbook*. Los Angeles: SAGE.
- Skutnabb-Kangas, T. & Toukomaa, P. 1976. *Teaching migrant children's mother tongue and learning the language of the host country in the context of the sociocultural situation of the migrant family*. A report prepared for UNESCO, University of Tampere.
- Skutnabb-Kangas, T. 1988. Multilingualism and the education of minority children. In: T. Skutnabb-Kangas & J. Cummins. Eds. *Minority Education: From shame to struggle..* Clevedon: Multilingual Matters. pp. 9-44.
- Skutnabb-Kangas, T. 2000. *Linguistic genocide in education- or worldwide diversity and human rights? New Jersey: Lawrence Erlbaum*.
- Skutnabb-Kangas, T. 2012. Address at NMMU workshop.
- Statistics South Africa. 2011. *National Census*. Pretoria: Government Printer.
- Strategy and Tactics 2004. *Same River, Different Boats. Report on 13 Focus Groups with UCT Students*. Cape Town: University of Cape Town.
- Strydom, H. (2003). South African law and policy on language in education. In: P. Cuvelier, T. Du Plessis, & L. Teck. Eds. *Multilingualism, education and social integration: Belgium, Europe, South African and Southern Africa*. Pretoria: Van Schaik. pp. 23-30.

Tedlock, B. 1991. From Participant Observation to the Observation of Participation: The Emergence of Narrative Ethnography. *Journal of Anthropological Research* 47 (1). pp. 69-94.

*The Development of Indigenous African Languages as Medium of Instruction in Higher Education*. 2003. Pretoria; Government Printers.

Thomas, G. 2011. *How to do your case study: a guide for students and researchers*. Los Angeles; Sage.

UNESCO. 2010. *Why and how Africa should invest in African languages and multilingual education: An evidence and practice based policy advocacy brief*. Hamburg: UNESCO institute for lifelong learning..

Union of South Africa: Union Department of Education: *Report of the Commission on Native Education 1949-1959*. Government Printer: Pretoria, UG No. 53, 1951.

van Zyl, H. J. 1961. Bantu languages at the crossroads. *Bantu Education Journal*, June. pp. 247-252.

Vincent, L. 2014. *Humanities and Social Sciences Postdoctoral Fellows in South Africa*: Available from, [http://www.linkedin.com/pulse/20141206092658-242378444\\_humanities-and-social-sciences-postdoctoral-fellows-in-south-africa](http://www.linkedin.com/pulse/20141206092658-242378444_humanities-and-social-sciences-postdoctoral-fellows-in-south-africa). Accessed 18 November 2014.

Vygotsky, L. S. 1994. *The Vygotski reader*. In: van der Veer, R. Valsiner, J. Eds. Oxford: Blackwell.

Vygotsky, L. S. 1986. *Thought and Language*. Massachusetts: Massachusetts Institute of Technology.

Webb, V. and Kriel, M. 2000. Afrikaans and Afrikaner nationalism. In: N.M Kamwangamalu. Ed. *Language and Ethnicity in the new South Africa. A special issue of the International Journal of the sociology of Language*. 144. pp. 19-51 Mouton: Berlin.

- Webb, V. 2004. African Languages as Media of Instruction in South African Education: Stating the case. *John Benjamins*.
- Wells, G. 1999. *Dialogic inquiry: Towards a sociocultural practice and theory of education*. Cambridge: Cambridge University Press.
- Widlsmith-Cromarty, R. 2008. "Can academic/scientific discourse really be translated across English and African languages?" *Southern African Linguistics and Applied Language Studies*. 26 (1). 147–169.
- Woodside, A. G. Wilson, E. J. 1989. Case study research methods for theory building. *Journal of Business and Industrial Marketing* 18 (6). pp 493-508.
- Yin, R. K. 1993. *The Application of Case Study Research*. London; Sage.

## APPENDICES

### APPENDIX A

#### QUESTIONNAIRE SURVEY



**RHODES UNIVERSITY**

*Where leaders learn*

#### Survey on Language

1. What is the primary language you speak at home? \_\_\_\_\_
2. How would you describe the school you attended? Tick (√) next to the appropriate answer:
  - 1) Former Model C school
  - 2) Ex-DET school (township school etc.)
  - 3) Private school
  - 4) Other
3. Did you study your home language as a subject at school?    **YES**    **NO**
4. If **NO** above, why? \_\_\_\_\_
5. How would you rate your proficiency in your mother tongue? Tick (√) next to the appropriate answer/s. I can            **SPEAK**            **LISTEN**  
  
   **READ**            **WRITE**
6. What other language/s do you speak? \_\_\_\_\_
7. What languages, other than English/Afrikaans, were occasionally used in the classroom at school? \_\_\_\_\_
8. If your mother-tongue is not English, did you have discussions with teachers and/or other students in your mother-tongue to assist you understand better?  
**YES**    **NO**
9. If **YES**, did it help?                            **YES**    **NO**
10. Given the opportunity, do you think you would learn better in your mother tongue at university?    **YES**    **NO**

11. If I learn something in my mother tongue, I will be able to explain it better in English  
**YES NO**
12. Do you think the level of English used at university is accessible to you?  
**YES NO**
13. Do you think the prescribed textbooks and other teaching materials are written in a language and manner that you understand?  
**YES NO**
14. Do you use resources (e.g. dictionaries) to help you understand a term in your subject?  
**YES NO**
15. Do you think learning materials at university should be provided in Languages Other Than English?  
**YES NO**
16. At university, if you were provided with material in your mother-tongue, e.g. glossary list with definitions of terms in your mother tongue, would you use it to assist in your understanding of terms/concepts you are struggling with in English?  
**YES NO**

Please elaborate on the reasons for your answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

17. If key terms in your subject were listed and explained in your mother-tongue, how would you prefer such a resource to be used to support your learning and understanding? Please tick (√) next to an appropriate statement
- 1) I would like them used in lectures
  - 2) I would like them used in tutorials and/or practicals
  - 3) I would like to use them on my own, when I am studying
18. The best way to help non-mother tongue speakers of English to perform better at university is:
- |  |            |           |
|--|------------|-----------|
| 1) To use English and their mother tongue in teaching them   | <b>YES</b> | <b>NO</b> |
| 2) To provide support-teaching material in the mother tongue | <b>YES</b> | <b>NO</b> |
| 3) To provide more teaching in English                       | <b>YES</b> | <b>NO</b> |
| 4) To provide mother-tongue tutors and demonstrators?        | <b>YES</b> | <b>NO</b> |

Would you be willing to be interviewed as a follow-up to this questionnaire?

**NO YES** (here is my email / cell number: \_\_\_\_\_)

If you wish to prefer anonymous, we respect that, but if you are willing, we would like to know who you are! Name / student number: \_\_\_\_\_

If you require more information about this research please contact Wanga Gambushe [g12g7172@ru.ac.za](mailto:g12g7172@ru.ac.za) or [wgambushe@gmail.com](mailto:wgambushe@gmail.com) or 079 7365 329

**THANK YOU FOR COMPLETING THIS SURVEY**

## APPENDIX B

### INTERVIEW QUESTIONS

#### Interview Questions for students

1. Did you study your home language at school? If no, why didn't you? If yes, at what level did you study it, as home language or as an additional language?
2. Having observed your practicals over the past few months, I have noticed that you are among the students I have observed who use isiXhosa when conducting their practical. I would like to know why you prefer to speak isiXhosa when conducting the practicals?
3. Do you use isiXhosa in other learning contexts besides the practicals, maybe when you are studying with friends etc?
4. The University's language policy states that isiXhosa must be used to support learning for students to whom English is a second language. What do you think about the use of isiXhosa in teaching and learning in the Cell Biology module?
5. In the case where you struggle with an English term/concept, would you be willing to use multilingual support materials such as an isiXhosa glossary of Cell Biology terms to facilitate learning?
6. During the time I was observing, I noticed that the majority of your demonstrators in the labs were monolingual. Do you think that having bilingual/multilingual demonstrators who also speak and understand your home language would be helpful?
7. If support multilingual support materials were, how do you think they should be used? Should they be used in classes, in practicals or be made available for students to use in their own time?
8. Do you think students who speak English as a first language have an advantage over students who speak it as a second language?
9. What do you think can be done to support students who speak English as a second language?

#### Questions for demonstrators.

1. How long have you been a demonstrator?
2. Which language or languages are you competent in?

3. As someone who deals with students in practical sessions, would you say that all students are comfortable with English as the only medium of communication?
4. Specifically focusing on students who speak languages other than English as first language, do you think they find it easy to ask for assistance from monolingual English speaking demonstrators?
5. Do you sometimes use languages other than English to assist the students?  
(**IsiXhosa speaking demonstrator**) You once told me that you prefer to move around a lot because some students might be reluctant to ask for assistance from some of the demonstrators. Why do you believe that is the case?
6. What do you think about multilingualism in teaching and learning practices? Do you see any value in using languages other than English in teaching and learning?
7. Do you think using other languages would help struggling students?
8. If yes, how do you think other languages could be used in teaching and learning?
9. Do you see yourself playing a role in a multilingual practical format?

#### **Questions for Extended Studies Lecturer**

1. What languages are you competent in?
2. How long have you been teaching the Cell Biology Extended Studies students?
3. According to your observations, do you think the students who are in your programme are linguistically prepared for university?
4. Linguistically, do you find that the students struggle to express themselves in English or they struggle in understanding biological concepts?
5. You also mentioned that your students tend to struggle when pictures are not used in lectures, can you elaborate on this?
6. You once told me that as a second language speaker of English it sometimes happens that you ask the students (who are also second language speakers) a question and you find out that they did not understand the question, how do you deal with such a situation?
7. Does the fact that you are L2 speaker of English help you understand and assist the students better than you would if you were a monolingual English L1 speaker?
8. Most of the students that are in extended studies programmes are English Additional Language students, would you say that language of learning and teaching is one of the factors that affect their performance?

9. What are your thoughts on the use of African languages to support learning for EAL students?
10. What do you think is the best way to support EAL students?

### **Questions for Mainstream Lecturers**

1. Your department initiated a research project with African Language Studies that looks into the language issues in the teaching and learning of cell biology. What do you think motivated this initiative?
2. What do you think can be done to better support EAL students?
3. Are you familiar with the university's language policy with regards to the role of bi/multilingual in learning, e.g. bi-/multilingual tutors, demonstrators and teaching/learning resources? (If they are aware, you may need to follow up and establish if he thinks they are or the university is doing enough to implement the policy).
4. How are the students assigned the benches they seat in during practical? Do they have a choice in the matter?
5. What are your thoughts on the use of African languages in teaching and learning?
6. What do you think would be the best way of using African languages to support learning in the Cell Biology module?

## APPENDIX C

### LANGUAGE COMPETENCY EXERCISE

“You have been learning Cell Biology for seven weeks. Write down in no more than a paragraph in your **HOME LANGUAGE** anything you have learnt up to this point about cells. What helps you most in learning, what helps you least? What do you think will help you learn even better?”