

**Using First Language to support
the Learning of Education: A case
study of First year Sepedi students
at the University of the
Witwatersrand**

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Humanities, University of the Witwatersrand,
Johannesburg, in fulfilment of the requirements of the
Award of the Degree of Master of Arts in English
Language Education**

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ABSTRACT

The new Constitution of the Republic of South Africa (1996) announced that “the official languages of the Republic are Sepedi, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga, Afrikaans, English, isiNdebele, isiXhosa and isiZulu” (Constitution of the Republic of South Africa, 1996, p. 4). However, only English and Afrikaans have continued to be used as languages of learning and teaching (LoLT) in higher education.

The Language Policy for Higher Education (DoE, 2002) in South Africa has also made a call to all institutions of higher learning to develop African languages. The Bill of Rights (Constitution of the Republic of South Africa, 1996, p. 10) asserts “everyone has the right to receive education in the official language or languages of their choice...”. Up to now, there have not been practical plans to meet the aspirations of these language policies. Many African students face challenging linguistic contexts when they enter institutions of higher learning.

The purpose of this project was to create a comfortable “safe space” where a group of ten first year Sepedi home language students discussed Education Studies concepts. These students used their first language, Sepedi to discuss these concepts, although English was the language of learning and teaching at the University of the Witwatersrand. I aim to identify, describe, analyze and reflect on the kinds of learning practices that emerge in these small groups.

The research design was a qualitative case study. I collected data in two phases: a pilot study that I conducted in 2010 and a main study in 2011. Both phases took place on the premises of the School of Education of the University of the Witwatersrand. Interviews, observation of group discussions, students’ reflective reports and field notes were used for data collection. A thematic content analysis method was used to analyse the data.

The results indicate that when students are afforded a comfortable “safe space” to discuss academic concepts using their first language, key learning practices emerge that lead to learning and thinking about content. Students experienced freedom, enjoyment and camaraderie during the group discussions. Their participation skills in formal lectures and tutorials improved after the group discussions. They participated in bilingual and multilingual practices, such as code-alternation processes: code-switching, code-mixing, code-borrowing and code translation. They engaged in exploratory talk, using assertions, explanations, questions, challenges and so on to deepen understanding of concepts. I also observed that students used culturally oriented habits that motivated and encouraged them to learn. They also began to respect their mother tongue as a language that could be used in academic contexts.

DECLARATION

I, Sebolai Sophie Mohope, declare that this dissertation is my own original unaided work. It has never been submitted before for any degree or examination at any other university. I am submitting it for the degree of Master of Arts in English Language Education at the Faculty of Humanities of the University of the Witwatersrand, Johannesburg.

Signed

Sebolai Sophie Mohope

This _____ day of _____ in the year _____

DEDICATION

To Mohale, Tau, my beloved husband;

To Tebogo, Madichaba, Refiloe and Lehlohonolo, my daughters;

To Kgosiemang and Siyabonga, my sons-in-law;

To Motlalepula, Relebogile, Nonkululeko, Themba, Unathi, my grandchildren;

To my brothers, sisters and friends;

To Nomgqibelo, my beloved late mother and Noah my late father;

To Nomseme, my grandmother and Sebolai my late grandmother;

To John and Lesiba my late grandfathers.

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TABLE OF CONTENTS

Copyright Notice	i
Abstract	ii
Declaration	iii
Dedication	iv
Acknowledgements	v
Table of Contents	vi
List of Figures	x
Abbreviations	xi

CHAPTER ONE – INTRODUCTION

1.1	Introduction	1
1.2	Rationale	2
1.2.1	Linguistic context in South Africa Education	2
1.2.2	Position of Language Policies to South African linguistic context	3
1.2.3	Personal challenges	6
1.2.4	Linguistic expectations in academic context	7
1.2.5	Related research studies	8
1.3	Research Aims and Questions	9
1.3.1	Research aims	9
1.3.2	Research questions	10
1.3.2.1	Main research question	10
1.3.2.2	Research sub-questions	10
1.4	Overview of the dissertation	10

CHAPTER TWO – LITERATURE REVIEW

2.1	Introduction	11
2.2	Learning and thinking	11
2.2.1	Vygotsky's theory of learning in socio-cultural context.....	12
2.2.2	Cummins' theory of BICS and CALP	16
2.2.3	Biggs' SOLO Taxonomy	20
2.2.4	Exploratory talk	22
2.2.5	Concept learning	25
2.2.6	Making mistakes	26
2.3	Bilingual/Multilingual practices	26
2.3.1	Code-alternation	26
2.3.2	Bilingualism	29
2.4	The power of English	32
2.5	Discourse and Literacies	34
2.5.1	Primary and Secondary Discourses	34

CHAPTER THREE - METHODOLOGY: PILOT STUDY

3.1	Introduction	39
3.2	Planning for Research Study	39
3.2.1	Plan 1	39
3.2.2	Plan 2	40
3.2.3	Final Processes	40
3.3	Research Context	40
3.4	Participants	41
3.5	Research Design	43
3.6	Research Approach	45
3.7	Data collection instruments	46
3.7.1	Semi-structured interviews	46
3.7.2	Observation of group discussions	48
3.7.3	Participants' Reflections	49
3.8	Data Analysis Strategy	50
3.9	Lessons learnt from pilot study	50
3.10	Conclusion	52

CHAPTER FOUR - METHODOLOGY: MAIN STUDY

4.1	Introduction	53
4.2	Research context	53
4.3	Participants for main study	53
4.3.1	Selection of participants	53
4.3.2	Group work ground rules	54
4.4	Research Design	55
4.5	Research Approach	55
4.6	Data collection instruments	55
4.6.1	Semi-structured interviews	56
4.6.2	Observation of group discussion	58
4.6.3	Participants' reflections	59
4.7	Data Analysis Strategy	59
4.8	Conclusion	60

CHAPTER FIVE - DATA ANALYSIS AND INTERPRETATION: PILOT STUDY

5.1	Introduction	61
5.2	Description of observations of group discussions	61
5.2.1	Code-alternation	62

5.2.1.1	Use of English technical terms for Education Studies concepts	62
5.2.1.2	Use of Sepedi to discuss the Education Studies concepts	66
5.2.1.3	Use of English for ease of communication	70
5.2.1.4	Use of different types of code-alternation	71
5.2.2	Exploratory talk leads to understanding	75
5.2.2.1	Extensions	75
5.2.2.2	Assertions	77
5.2.2.3	Requests	78
5.2.2.4	Challenges	80
5.2.2.5	Explanations	82
5.2.2.6	Use of Questions	82
5.2.3	Culturally oriented discourse habits	84
5.2.4	Morphological transformation	86
5.3	Description of individual interview transcripts	90
5.3.1	Challenges associated with English as LoLT	91
5.3.2	Challenges associated with academic writing	92
5.3.3	Code-switching promotes understanding	95
5.3.4	Mother tongue discussions increased participation in Education lectures/tutorial	96
5.4	Description of Students' reflections	98
5.4.1	The discussions promoted understanding of concepts	98
5.4.2	The discussions promoted sharing of ideas	99
5.4.3	The mother tongue promoted understanding	99
5.4.4	The peer discussions promoted freedom	100
5.4.5	The peer discussions promoted enjoyment	101
5.4.6	The discussions promoted thinking	101
5.5	Conclusion	103

CHAPTER SIX – DATA ANALYSIS & INTERPRETATION: MAIN STUDY

6.1	Introduction	105
6.2	Transcripts of observation of group discussions	106
6.2.1	Code-alternation	106
6.2.1.1	Use of English technical terms for Education Studies concepts	107
6.2.1.2	Use of Sepedi to explore Education Studies concepts	110
6.2.1.3	Use of English words for ease of communication	116
6.2.1.4	Use of different forms of code-alternation	119
6.2.2	Exploratory talk that leads to understanding	124
6.2.2.1	Extensions	125
6.2.2.2	Requests	127
6.2.2.3	Challenges	129
6.2.2.4	Explanations	132
6.2.2.5	Use of questions	134

6.2.3	Culturally oriented discourse habits	137
6.2.4	Morphological transformation	141
6.2.5	Peer support – Latecomer’s context	146
6.3	Description of individual interview transcripts	149
6.3.1	Challenges associated with English as LoLT	151
6.3.2	Code-switching promoted understanding	153
6.3.3	Mother tongue discussions increased participation in the normal education lectures/tutorials	155
6.4	Description of students’ reflections	160
6.4.1	Mother tongue discussions promoted understanding	161
6.4.2	Discussion promoted sharing of ideas	163
6.4.3	Sepedi discussions promoted participation in Education lectures/tutorials	165
6.4.4	Discussions were associated with freedom and enjoyment	166
6.4.5	Discussions promoted social and communication skills	168
6.4.6	Discussions prepared for tests and/or examinations	170
6.4.7	Discussions improved the status of Sepedi	172
6.5	Conclusion	175

CHAPTER SEVEN – CONCLUSIONS

7.1	Conclusions of research study	178
7.1.1	The role of Sepedi during discussions	179
7.1.1.1	Sepedi used as a linguistic bridge	179
7.1.1.2	Sepedi used as an academic bridge	181
7.1.1.3	Sepedi used as cultural bridge	183
7.1.1.4	Sepedi used for exploratory talk	184
7.1.1.5	Sepedi used for thinking about learning	186
7.1.1.6	Sepedi created enjoyment, freedom and camaraderie	187
7.1.1.7	Use of Sepedi as LoLT changed students’ perceptions of their mother tongue	187
7.2	Impact of the research process in main study	188
7.3	Conclusions in terms of pilot and main study learning practices	191
7.3.1	Learning practices observed in research study	191
7.3.2	Conclusions in regard to challenges and learning practices from individual interviews	192
7.3.3	Conclusions reached with regard to students’ reflections	192
7.4	Limitations of the research	192
7.5	Future areas of research	193
7.6	Recommendations	193
7.7	General Conclusion	195
	REFERENCES	197
	APPENDICES	204

List of figures

1. Cummins' Theory of BICS & CALP: Further Developed	17
2. Cummins' Theory: Range of Contextual Support and Degree of Cognition Involvement in Communicative Activities	19
3. Relationship of CALP to Language Proficiency, Cognitive and Memory skill and educational progress	20
4. A hierarchy of verbs that may be used to form curriculum objectives (Biggs SOLO Taxonomy)	21
5. Cummins' Theory of BICS & CALP: Further Developed	69
6. Sepedi Noun Class Prefixes	89
7. Cummins' Theory of BICS & CALP: Further Developed	114
8. Sepedi Noun Class Prefixes	146

List of tables

1. Interview Schedules 1-3 (Pilot Study)	47
2. Observation Schedule (Pilot study)	49
3. Students Reflection Instruction (Pilot Study)	50
4. Interview Schedules 1-2 (Main Study)	57
5. Observation Schedule (Main study)	58
6. Students' Reflections Instruction (Main study)	59
7. Students' Ratings of their participation in Education Lectures/Tutorials before and after Sepedi group discussions (Pilot Study)	97
8. Students' Ratings of their participation in Education Lectures/Tutorials before and after Sepedi group discussions (Main Study)	155
9. Interview Schedule 1 (Pilot Study)	189
10. Interview Schedule 1 (Main Study)	190

List of appendices

A Application for permission to conduct research	204
B Letter from the Ethics Committee	206
C Participant (subject) information sheet	207
D Consent form (Interviews)	208
E Consent form (Recording interview)	208
F Consent form (Observed of group discussions)	209
G Consent form (Recording group discussions)	209
H Parent/Guardian consent form	210

ABBREVIATIONS

BCE:	Black Cultural Ethos
Bed	Bachelor of Education
BICS:	Basic Interpersonal Communicative Skills
CALP:	Cognitive/Academic Language Proficiency
CS:	Codeswitching
DoE:	Department of Education
EAP:	English for Academic Purposes
EL:	Embedded Language
LoLT:	Language of learning and teaching
L1:	First Language
L2:	Second Language
MA	Master of Arts
ML:	Matrix Language
SOLO:	Structure of Observed Outcomes
UCT:	University of Cape Town
Wits University:	University of the Witwatersrand
ZPD:	Zone of Proximal Development

CHAPTER 1

GENERAL INTRODUCTION

1.1 Introduction and Context of Research Study

This case study research offers a group of first year university students at the University of the Witwatersrand a “safe space” in which to use their first language (L1), Sepedi, as a resource to assist them to understand Education Studies concepts. English, which is the students’ additional language, is used as language of learning and teaching (LoLT) at the university. The tendency for the medium of instruction to gravitate towards monolingualism and English only, has had negative repercussions in the education of the speakers of African languages. There are a number of studies that show a relationship between academic failure and use of English in various parts of the African continent (Opoku-Amankwa (2009); Brock-Utne, (2007); Heugh (2008); and Chitera (2010).

However very little has been done to provide students with opportunities to use their home language in the learning of academic subjects in higher education. On the other hand, enacted language policies have not brought substantive change to the language debate. Bamgbose & Prah, as cited in Makalela (2009, p. 170) observed that “language policies are also non-committal and incapable of serving the educational needs of the African masses”. The study then uses a small-group approach to observe the kinds of learning practices students will engage with when using their mother tongue to learn academic concepts. My study also gives students an opportunity to use their own language in order to understand challenging concepts in Educational theory. According to Hornberger 1989 (as cited in Hornberger & Skilton-Sylvester, 2010, p. 99) the notion of the “continuum model”, proposes that second language learners should be allowed to draw from both ends of the continuum in order to develop their biliteracies.

This study thus examines the value of support being given through the mother tongue where the LoLT is a second language, English. This study concurs with Rochelle (1998, as cited in Yafele, 2009, p. 86), as he argues for the acknowledgement of students’

language as a resource in learning. The students' experiences in the small group discussion will be used to measure the success of this intervention.

In this chapter, I present a general introduction to the case study.

1.2 Rationale

1.2.1 Linguistic context in South African Education

During the period of “Bantu Education”, African language speaking children were taught in their various mother tongues in primary school from Grades 1 to 8 (Brocke-Utne, 2010). Thus they were inadequately prepared for higher studies in both high school and in higher education. English and Afrikaans have been used as the primary medium of instruction in most schools and institutions of higher learning. This is affirmed in Section 15.1 of the Language Policy for Higher Education (2002) where the Ministry asserts:

The Ministry acknowledges the current position of English and Afrikaans as the dominant languages of instruction in higher education... it will be necessary to work within the confines of the status quo until such time as other South African languages have been developed to a level where they may be used in all higher education functions. (DoE, 2002, p. 10)

This policy acknowledges the position of English and Afrikaans as languages of power in the education of all learners in South Africa. Some learners, whose medium of instruction has been in Afrikaans and/or English, have experienced difficulties in learning theoretical subjects, especially at institutions of higher learning. Such linguistic contexts marginalize students' mother tongue. In such contexts the students' cultural capital acquired in their communities is not used to advantage students in academic contexts.

Students need previous experiences from families and communities to link to new experiences of academic situations. Such practices encourage students to learn. Boykin and Tharp comment on the importance of incorporating culture into the formal context:

The incorporation of culture makes cues more discernible, activates cognitive processes such that relevant components of a task are identified, and heightens the salience and meaningfulness of the situation to individuals so they become more attentive and motivated. (Boykin & Tharp, as cited in Parsons, Travis, & Smith Simpson, 2005, p. 194)

In this context students are deprived of situations that could motivate them to learn if their cultures are not included in their learning. At the introduction of democracy in 1994, the previously disadvantaged African languages were made official. The new Constitution of the Republic of South Africa (1996) announced that “the official languages of the Republic are Sepedi, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga, Afrikaans, English, isiNdebele, isiXhosa and isiZulu” (Constitution of the Republic of South Africa, 1996, p. 4). In this manner, the previously disadvantaged African languages were included as languages that should enjoy equal status as English and Afrikaans in teaching and learning contexts. But this too has not been possible as these languages are underdeveloped as languages of learning and teaching and academia.

To pursue the right of individuals to choose a language of preference in their learning, Section 29(2) of the Bill of Rights (1996) further declares:

Everyone has the right to receive education in the official language or languages of their choice in public educational institutions where that education is reasonably practicable ... (Bill of Rights, in the Constitution of the Republic of South Africa, 1996, p. 10)

This implies that when students enter learning institutions they can choose their language of preference. Learning institutions, on the other hand, have an obligation to make this ideal a reality. However this is not the case, as learning institutions are given the freedom to effect such a condition “where reasonably practicable”. The continued status quo, where English and/or Afrikaans remain the dominant language of learning and teaching, appears to serve the interests of most learning institutions at the expense of students.

The majority of South African higher institutions of learning, including the University of the Witwatersrand, admit students from a variety of linguistic backgrounds. African students speak African indigenous languages as home languages, whereas the medium of instruction is English and/or Afrikaans.

1.2.2 Position of Language Policies to South African linguistic context

The National Education Policy (Act 27 of 1996) declares the right “of every student to be instructed in the language of his or her choice where this is reasonably practicable” (National Education Policy, 1996, p. 4). This policy is in agreement with the Bill of Rights (1996) which gives individuals the freedom to choose their preferred LoLT. The

only weakness is that this policy statement, like the Bill of Rights, gives power to institutions to weigh what is “reasonably practicable” for themselves. The latter may in some circumstances not be favourable for all students.

Section 7(1) of the Language in Education Policy (DoE, 1997, p. 2) asserts that “all learners shall offer at least one approved language as a subject in Grade 1 and Grade 2”. Whilst this is commendable in terms of offering most African learners a comfortable entry into their unfamiliar school environment, the policy offers learners a very short period where they can sufficiently develop language skills in their home language. The policy further states that “from Grade 3 (Std 1), onwards, all learners shall offer their language of learning and teaching and at least one additional approved language as subjects” (DoE, 1997, p. 2). In many African schools the LoLT has been English, which is a second language for many African learners. The policy has therefore promoted the idea that the home language be developed alongside the LoLT. In practice though, home language teaching and learning is not given the kind of development envisaged by policy, the kind that would elevate these languages to be languages of learning and teaching.

Section 15(3) of the Language Policy for Higher Education (DoE, 2002, p. 10) also explains that “language should not act as a barrier to equity of access and success”. This goal presupposes that universities pursue steps to assist students to overcome this language barrier. The policy also encourages the use of “South African languages as fields of academic study and research” (DoE, 2002, p. 9).

In summary, Section 21 of the Language Policy for Higher Education (2002) emphasizes the “promotion of multilingualism” and the “development, in the medium to long-term, of South African languages as mediums of instruction in higher education, alongside English and Afrikaans” (DoE, 2002, p. 15). This presupposes that tertiary institutions find the space to promote the use of all the official languages. The aspirations of the Constitution (1996) and the Language Policies (1996, 1997, 2002) have, however, not had the desired effect as English and/or Afrikaans continue to be used as LoLT, and African languages continue to be underdeveloped for learning and teaching.

The Language Policy for Higher Education (DoE, 2002) acknowledges the dominance of English and/or Afrikaans in tertiary education. Consequently many African students face language barriers at institutions of higher learning. In section 11.1 of the Language Policy for Higher Education the Ministry asserts:

Evidence suggests that the majority of universities and technikons use English as the sole medium of instruction or, as is the case in most historically Afrikaans medium institutions, offer parallel/dual instruction in English and Afrikaans ... (DoE, 2002, p. 7)

The University of the Witwatersrand, where the research is being conducted, adopts English as the medium of instruction and aims to develop Sesotho so as to offer dual instruction in English and Sesotho in the future. To support these ideas, the Language Policy of the University of the Witwatersrand (2003) reads:

English will remain the only medium of instruction at the University, until such time as it can be used together with Sesotho ... (Wits Language Policy, 2003, p. 1)

The aim of this policy has not yet been achieved. The university still offers instruction in English only. Students in my case study receive all instruction at the university in English. These African students face challenges posed by learning through an additional language. In the interim, the university could use other strategies to meet the needs of linguistically marginalized students so that all students have access to university education. This is the call by the Language Policy for Higher Education (2002):

The challenge facing higher education is to ensure the simultaneous development of a multilingual environment in which all our languages are developed as academic/scientific languages, while at the same time ensuring that the existing languages of instruction do not serve as barrier to access and success ... (DoE, 2002, p. 5)

The policies that regulated the language(s) used as LoLT by students in this case study at school and presently at Wits University, have not offered an immediate solution to their linguistic challenges. In order to overcome the language barriers and backlog that students carry from their years of schooling, tertiary institutions must strive to find suitable “interim strategies” to alleviate these challenges.

Students at the Wits School of Education have to register for Education Studies as a compulsory course at first year level. The course is regarded as highly theoretical in its content.

1.2.3 Personal challenges

My own linguistic background encouraged me to pursue this case study because I experienced the negative repercussions of using English and Afrikaans as language of learning and instruction, instead of my home language. I wanted to create a comfortable space where first-year African language students could be enabled and supported to use their first language as a resource to help them learn and understand academic concepts. I then conceptualized my case study around the university's Education Studies course because it is highly theoretical and abstract in its content and is compulsory for all first year students. It therefore suited my research project. This linguistic concern was based on my own challenging linguistic experiences at schools and university.

My mother spoke isiNdebele and my father Sepedi. I grew up in a bilingual setting. I received my Foundation Phase education, that is, from Grade 1 to Grade 3 through the medium of isiZulu, as all schools in the area offered only isiZulu. I moved schools in Grade 4 to an area that offered Sepedi only. I had to study my first language, Sepedi, as a subject, with English as LoLT and Afrikaans as a compulsory second language. I found the learning of Sepedi easier as I transferred content from my informal home language to the formal context of the school. On the other hand, I had limited everyday knowledge of my first language compared to learners whose parents were both Sepedi speaking, as I also spoke isiNdebele.

When I reached secondary school, I received instruction through the medium of Afrikaans. I also continued to learn English and Afrikaans as first additional languages and Sepedi as the first language. It was difficult for me to learn school subject matter through the medium of Afrikaans but when I reached Grade 12, I had mastered the language.

When I entered university, English was the LoLT. My tolerance for foreign language learning was lost, as I struggled to perform at my best. I wanted to be taught in my first language. The knowledge of English acquired at school failed to assist me as different disciplines had their own Discourses. The lecturers and tutors did not entertain linguistic problems or offer assistance. Their task was to complete the year's curriculum and assess students. From the year 1972, I pondered on how students' first language could be accommodated as LoLT in the learning of university disciplines. My language background is typical of many other African students' language contexts.

This case study is thus particularly important for me and the future of many speakers of African languages in South African institutions of higher learning who come from disadvantaged educational and socio-economic backgrounds, both rural and urban.

1.2.4 Linguistic expectations in academic contexts

University students need to familiarize themselves with academic culture and the community of practice if they wish to succeed in their studies. At first year level all students must familiarize themselves with the university environment and acquaint themselves with new secondary discourses. Paxton (2007) in her study of “interim literacies” in a commerce class at the University of Cape Town (UCT) observes:

Some students had been exposed to middle class literacy practices both at home and at school and these coincided quite closely with those taught at university. Therefore, the acquisition of the new academic language was probably a lot less challenging for these students. (Paxton, 2007, p. 47)

The students Paxton describes relate with ease in formal academic contexts. On the other hand, students from disadvantaged backgrounds, whose contexts are unfamiliar with academic literacy practices, experience difficulty with university practices. Paxton argues in her research:

For students from different cultural and linguistic backgrounds studying at a university such as this one presents multitude difficulties. The teaching staff is still predominantly white and English speaking. (Paxton, 2007, p. 47).

In my study most of the students are from rural and working class backgrounds. They find the university environment alien. They also face linguistic challenges as the English LoLT is not their mother tongue. However they need to acquire Education Studies discourses through the medium of English. Paxton (2007) further asserts:

The institutional culture, symbols, and patterns of behaviour are unfamiliar and the gaps between familiar and yet marginalized discourses and the privileged discourses of the academy are much greater than for students from more middle class backgrounds. (Paxton, 2007, p. 47)

The basic skills necessary are reading and writing. The literacy practices of students from disadvantaged backgrounds differ from the literacy practices expected at university. Universities need to bridge the gap between these literacies in order for

students to enter this community of practice. English for academic purposes (EAP) has been a need in most contexts. Johns and Swales (2002) in a study of first year American Anthropology students observe:

... US undergraduates, especially those from so-called “disadvantaged” backgrounds, may need EAP-type help as they begin to enter disciplinary terrain. (Johns & Swales, 2002, p. 14)

It is clear from the above comment that English second language students struggle with the LoLT in institutions of higher learning. My study’s intention was to attempt to give first year students greater support using their home languages. It was interesting for me to give students support in their mother tongue (which was Sepedi) and then observe how students’ first language acted as a resource in the learning of Education Studies.

1.2.5 Related research studies

This case study may contribute to other studies related to it such as Ramani and Joseph (2006), Setati (1996), Yafele (2009), and Kenner (2000).

Ramani and Joseph (2006) examined the viability of a dual-medium university degree qualification in English and Sesotho sa Leboa, developed and offered at the University of Limpopo. Setati (1996) investigated the role of code-switching in a mathematical class where learners used their first language, Setswana as a resource to meet “educational demands in a mathematical class” at the University of the Witwatersrand (Setati, 1994, p. 85). Setati (1996) observed in this study that even in settings where English is the language of power, students used their home language in group activities to enhance the learning of mathematics. Yafele (2009, p. iii) examined the effectiveness of Sepedi as an “academic language of learning and instruction” where Sepedi was used in the teaching of Communication Theory at the University of Johannesburg. Kenner (2000, p. 1), conducted research in a “South London primary school”, and drew data from 4-7 year old learners. Kenner then followed a four year old girl until she was seven. The researcher observed that the learner combined her mother tongue, Gujarati, with English, the LoLT, to attain literacy in the school environment. The English primary schools did not support these kinds of multilingual practices. Kenner observed that mother tongue teaching was not given space in the learning environment of these children. Mother tongue teaching was expected to be a task undertaken by “ethnic

minority communities themselves” (Kenner, 2000, p. 14). Children in such contexts should be allowed to use their mother tongue to enhance learning and understanding.

All these research studies (Ramani & Joseph, 2006; Setati, 1996; Yafele, 2009; and Kenner, 2000) were focused on exploring the use of mother tongue as a resource to enhance learning in English medium only contexts.

The University of the Witwatersrand, like other institutions of higher learning in South Africa, annually admits a considerable number of students from different provinces. Some of these students speak Sepedi and all students study Education Studies through the medium of English at first year level. The use of English makes the learning and understanding of new concepts in this course difficult for some of these students.

I arranged to be a participant observer during these one hour group discussions. This role enabled me to interrupt when students lost focus or needed more clarity during discussions. I observed the kinds of learning practices that emerged, the kinds of challenges that emerged, the kinds of interactions that took place and how all of these supported the students’ learning of new Education Studies concepts.

1.3 Research Aims and Questions

In this section I present the research aims and questions of the case study.

1.3.1 Research aims

This research study aims:

- To examine the use of students’ first language (Sepedi) as a resource in learning academic concepts.
- To gauge the prevalence of group collaboration and exploratory talk in the interactions.
- To assess whether provision of a ‘safe space’ will enable students’ understanding of course concepts.

1.3.2 Research questions

1.3.2.1 Main research question:

The main research question to be explored in this research study is:

How will a weekly one hour group discussion of Education Studies concepts in Sepedi impact on an informal group of first year Sepedi first language students?

1.3.2.2 Research sub-questions:

Flowing from this main question are the following subsidiary research questions:

- What academic challenges are faced by some first year Sepedi first language students when learning Education Studies concepts in English, which is the Language of Learning and Teaching (LoLT), and a second language to these students, at Wits School of Education?
- What kinds of learning practices will emerge during the proposed one hour discussion sessions?
- How will students benefit from these informal group discussions?

1.4 Overview of the dissertation

- Chapter 1 is an attempt to explain the rationale, research aims and research questions.
- Chapter 2 explores the literature review that provides the theory and the concepts that inform the research study.
- Chapter 3 explains the methodology used in the pilot study.
- Chapter 4 examines the methodology used in the main study.
- Chapter 5 provides analysis of data collected during the pilot study.
- Chapter 6 provides analysis of data collected in the main study.
- Chapter 7 concludes the general findings of the research study's aims.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This review provides an overview of research studies on various phenomena relating to multilingual practices and the relation of these to my intervention with Sepedi speaking students. My focus was to give English second language students a safe space where they could use their first language as a resource to learn Education Studies concepts. The literature review provides the theoretical framework for the study and includes:

- 2.2 Learning and thinking
 - 2.2.1 Vygotsky's theory of learning in social contexts.
 - 2.2.2 Cummins' theory of BICS and CALP
 - 2.2.3 Biggs' SOLO Taxonomy
 - 2.2.4 Exploratory talk
 - 2.2.5 Concept learning
 - 2.2.6 Making mistakes
- 2.3 Bilingual/Multilingual practices
- 2.4 The power of English
- 2.5 Discourse and Literacies
 - 2.5.1 Primary and Secondary Discourses

2.2 Learning and thinking

In this section I discuss theories that informed the study in terms of learning and thinking. I observed the learning and thinking of students about Education Studies theoretical concepts through their first language, Sepedi. Theories that I used include Vygotsky (1978); Cummins (1980, 1996); Biggs (1999, 2003); Boykin (1983, 1986, as cited in Parsons, 1997); Mercer (1995, 1999, 2000); Hornberger (1989), as cited in Hornberger and Skilton-Sylvester (2000) and Wegerif, Mercer and Dawes (1999).

2.2.1 Vygotsky's theory of learning in socio-cultural contexts

Vygotsky's theory is concerned with cognitive development in a social setting. When students in learning environments explore content knowledge in collaboration with one another, with a view to reaching deeper understanding, they do so in a specific space. This kind of space is conceptualized by Vygotsky as a Zone of Proximal Development (ZPD), a space I have chosen to become part of my theoretical framework. I intended to use the ZPD to facilitate students' group discussion of Education Studies concepts and believed that it would represent Vygotsky's ZPD:

... It is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. (Vygotsky, 1978, p. 86)

The concept of the ZPD is relevant for this study because students would work in cooperation with their peers during the group discussions. Thus each student would bring with them a level of understanding of education concepts reached in the formal context. In cooperation with their peers in the group discussions, students would share their understandings of concepts and assist each other to reach their potential levels. The "potential development level" denotes those tasks that learners could only accomplish with the help of "more knowledgeable others" who could be "peers, siblings, the teacher, parents, grandparents and so on" (Vygotsky, as cited in Bennett & Dunne, 2001, p. 53). In this study peers would act as "more knowledgeable others" as each would contribute to the group discussions. What is important is that "what a child is able to do with assistance today he or she will possibly be able to do independently the next time" (Vygotsky, as cited in Bennett & Dunne, 2001, p. 53). In this study I expected each student to enter the discussion at their "actual developmental level" and assist each other to reach their "potential developmental level" in terms of their understanding of the Education Studies course concepts under discussion.

The value of the ZPD would be evident when students debated and challenged each other with a view to developing their understanding. Vygotsky (1978), discussing his conceptual tool, the "Zone of Proximal Development" further says:

The zone of proximal development defines those functions that have not yet matured but are in the process of maturation, functions that will mature tomorrow but are currently in an embryonic state. These functions could be termed the “buds” or “flowers” of development rather than the “fruits” of development. (Vygotsky, 1978, p. 86)

When students collaborate, they help each other to reach better understanding through dialogue. It is through dialogue that students will share understanding and further develop their understanding of concepts. In this study the act of “speaking” helps students to collaborate. This help that is offered in the ZPD, is termed “mediation” (Vygotsky, as cited in Donald, Lazarus & Lolwana, 2009, p. 60). Thus a child actively interacts with what is mediated in the ZPD to construct his/her own meaning – “making connections between the familiar and the unfamiliar” (Vygotsky, as cited in Donald, Lazarus & Lolwana, 2009, p. 59). Students’ responses were expected to become “what they said”, providing an object for reflection (Lantolf & Thorne, 2009, p. 285).

Students’ interactions allow them to engage in higher order thinking as they reflect on their discussions. Firstly, students’ discussions occur amongst peers and later individual students internalize their own meanings and understandings of these concepts. Vygotsky (1978) asserts:

Every function in the child’s cultural development appears twice, on two levels. First, on the social, and later on the psychological level; first between people as an interpsychological category, and then inside the child, as an intrapsychological category. (Vygotsky, 1978, p. 128)

The “two levels” referred to above would be relevant in this study as students meet as a social group and discuss the Education concepts and then are expected to reach individual understanding to benefit them in their studies. This joint understanding should lay a good foundation whereupon students would build individual meanings of content knowledge in the Education course. According to Vygotsky (1978), “learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers...” (Vygotsky, 1978, as cited in Lantolf & Thorne, 2009, p. 269).

The idea that students have to “internalize” new knowledge presuppose their ability to perform functions without assistance from peers. It presupposes that learners be given an opportunity to reconstruct and think about their learning in the study. This notion is expressed in Lantolf and Thorne (2009) as:

... the capacity to perform complex cognitive and motor functions with increasingly less reliance on externally provided mediation. (Lantolf & Thorne, 2009, p. 266).

The ZPD is a critical space where learners meet to share common understandings of learning content. Bruner (1986, as cited in Bennett and Dunne, 2001) recognizes the importance of Vygotsky's position of "social setting in learning":

I have come increasingly to recognize that most learning in most settings is a communal activity, a sharing of the culture. It is not just that the child must make his knowledge his own, but that he must make it his own in a community of those who share his sense of belonging to a culture. (Bruner, 1986, as cited in Bennett and Dunne, 2001, p. 53).

It is in such contexts where learners share knowledge with peers who share a "culture" where deep understandings can occur. Bruner, who was influenced by the work of Vygotsky (1978), also recognizes the important role of "negotiating and sharing in children's classroom learning" (Bruner, as cited in Bennett & Dunne, 2001, p. 53). Students working in groups negotiate and share understandings in order to reach meaningful learning. In such contexts understanding is made possible when a learner is "interacting - with people in his environment and in cooperation with his peers" (Vygotsky, as cited in Bennett & Dunne, 2001, p. 53). In this case study, first year Bapedi students, in a similar setting, the University of the Witwatersrand, will share education knowledge, a "culture" with peers in a communal setting. During such interactions I aim to observe the kinds of learning practices that emerge as students use their home language to "make connections between what they already know and new experiences and ideas" in order to reach own understanding (Bennett & Dunne, 2001, p. 55).

Language is an important tool for students' collaboration. According to Vygotsky (1978), language facilitates successful learning in the ZPD. The latter is created as the group comes together to discuss Education Studies concepts. At first all children learn language to communicate with family members and other people in their environment but it is argued that it is only when language "... is converted to internal speech that it comes to organize the child's thought" (Vygotsky, 1978, p. 30).

The students' home language, Sepedi will be used in this study to assist them to think. Mercer, Wegerif and Dawer (1999, p. 2), acknowledge the work of Vygotsky (1962, originally 1934), where language is positioned within a "socio-cultural theory", and

argue to possess “integrated functions: as a cognitive tool which children come to use to process knowledge; as a social or cultural tool for sharing knowledge amongst people: and as a pedagogic tool which one person can use to provide intellectual guidance to another”. Language would thus be very important in this research as learners communicate challenging Education Studies concepts through their everyday informal first language, Sepedi. Their fellow students at various points in the process would act as “more knowledgeable others”. In the case study the peers were expected to play a dual role, some as mediators and some “more knowledgeable others” (Bennett & Dunne, 2001, p. 53).

In the ZPD, the process of scaffolding occurs when peers act as “scaffolds”. This is the support given to learners in learning situations. According to Maybin, Mercer and Stierer (2001, p. 58) the term “scaffolding” was originally used by Bruner (1985 as cited in Maybin et al., 2001, p. 58) “as a metaphor for depicting the form and quality of the effective intervention by a learned person in the learning of another person”. The concept of “scaffold” is used metaphorically, because when one is building they use a scaffold to support the builders as they move up a tall building. When the builders reach the top of the building they will remove the scaffold as their task will be accomplished. So teachers or peers will give guidance to a child until he/she is able to do the task on his/her own and at that stage leave the child to act independently. Teachers, parents or peers scaffold through explanations, use of examples, use of resources, use of leading questions, approving nods etc. In this study students who have more understanding of concepts should be able to help others to reach these understandings, thus acting as “scaffolds”. I wanted to observe whether the students were using this kind of strategy as they discussed academic concepts in their mother tongue.

The term scaffolding therefore refers to the types of help that learners will receive from adults or peers. Maybin et al. (2001) refer to scaffolding as:

... Increasingly used to describe the kinds of support which learners receive in their interaction with parents, teachers and other ‘mentors’ as they move towards new skills, concepts or levels of understanding. (Maybin et al., 2001, p. 57)

The way language is used to communicate the meanings of new knowledge is vital in this type of learning. On the other hand, the mediator should engage the learner in a special kind of speech that can raise the awareness of an observer about the level of

understanding of the learner. Maybin et al. (2001, p. 60) refers to it as “quality of the talk” between the adult and learner. The adult must show that they have “tuned into the learner’s present state of ability and understanding”. The kind of talk that the students engaged in was particularly relevant to my study as the students assisted each other to understand various concepts.

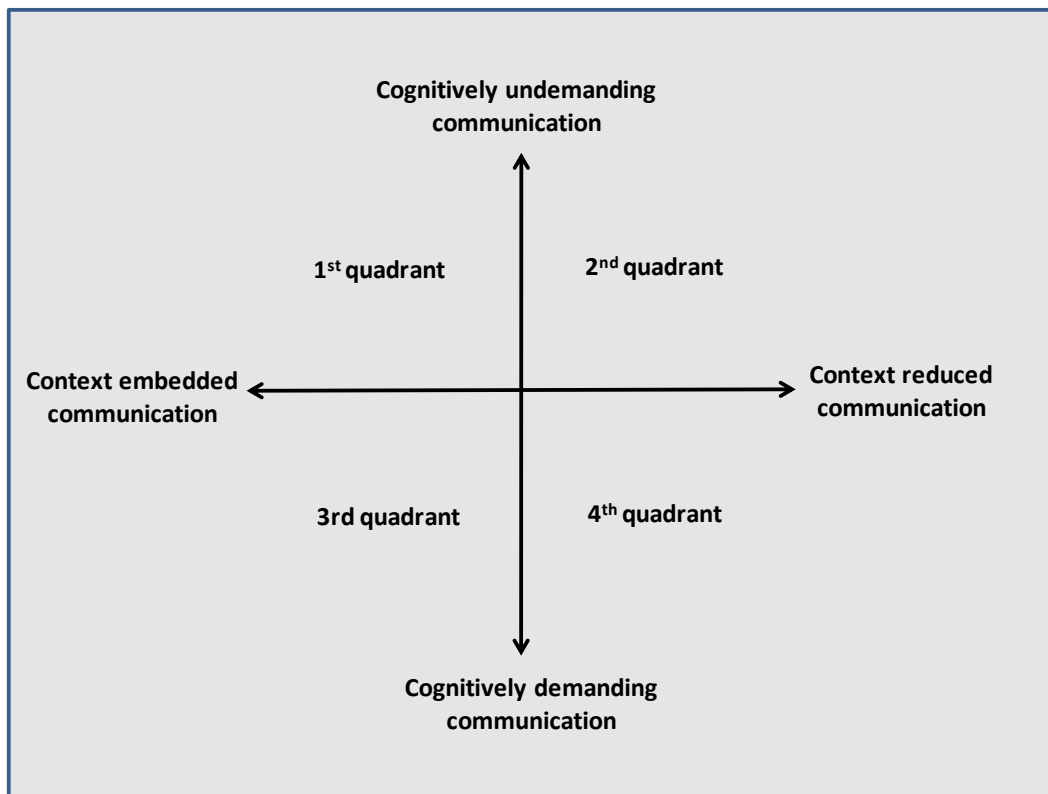
In their summary Maybin et al. (2001, p. 67) list some of the important features of scaffolding, for example, the kinds of teachers’ questions in learning tasks; the outcome of tasks, for example, practical demonstration of new learning, tangible products, something in the talk. In this study, I posed a question to students at the beginning of each discussion session, “For an hour discuss concepts covered this week in your Education Studies course”. I observed the kinds and purpose of questions posed by students during these discussions.

Thus Vygotsky’s theory of cognitive development was of great benefit in this study.

2.2.2 Cummins’ theory of BICS and CALP

When second language students enter institutions of higher learning they have basic fluency in their second language, English, thus they can communicate freely with people in the university environment. On the other hand, this kind of language proficiency does not necessarily guarantee their academic success. Cummins (1984b, as cited in Baker, 1993, p. 11) expressed this distinction in terms of “Basic Interpersonal Communicative Skills (BICS)” and “Cognitive/Academic Language Proficiency (CALP)”. Therefore the ability to communicate daily in informal contexts does not necessarily lead to successful communication in formal academic contexts.

Figure 1: Cummins' theory of BICS and CALP: Further Developed



(Adapted from Cummins, 1981b in Baker, 1993, p. 139)

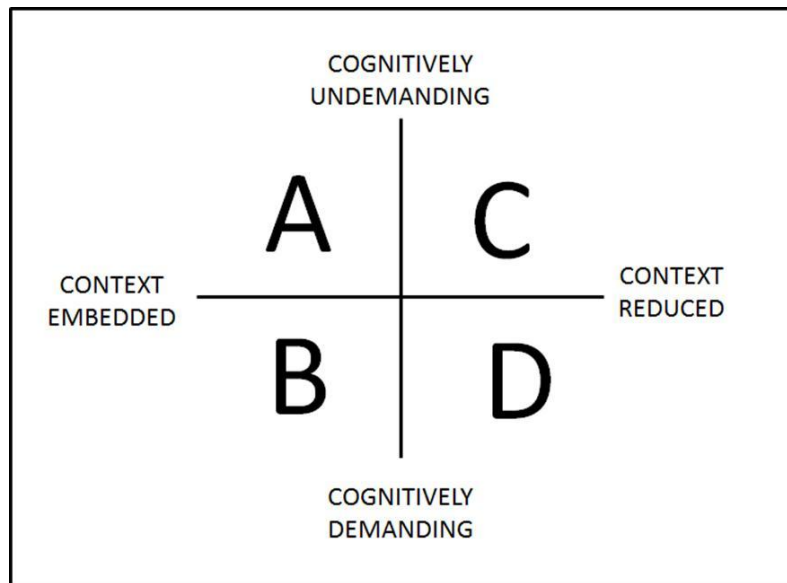
When children communicate with peers in their surroundings, they have enough help in terms of for instance, “actions with eyes and hands, instant feedback, cues, and clues to support verbal language” (Baker, 1993, p. 11). They are therefore able to communicate with ease. This is defined as “context embedded communication” (Baker, 1993, p. 139). In these instances there is support, particularly via body language (Argyle, as cited in Baker, 1993, p. 139). On the other hand CALP occurs where there is no contextual support and this is defined as ‘context reduced communication contexts’ (Baker, 1993, p. 11). When the tasks are intellectually challenging they are called “cognitively demanding communication” and when the tasks are casual they are regarded as “cognitively undemanding communication” (Baker, 1993, p. 139). In this research the tasks were supported by contextual cues - “context embedded” whilst also discussing challenging Education Studies theoretical concepts - “cognitively demanding”. Therefore Figure 1 was developed to elaborate BICS and CALP by “adding two dimensions that indicate contextual support available to pupil and cognitive demands required in communication” (Baker, 1993, p. 139).

Skutnabb-Kangas and Toukomaa (1976), (as cited by Baker, 1993, p. 11) also observe this distinction when they propose “a difference between surface fluency and academically related aspects of language competence”. In order to perform successfully in an academic environment, students need to master a “cognitively and academically more advanced language” than in conversational language.

Second language students in higher education are faced with new and demanding academic expectations and they also have to perform “higher order skills, for example, analysis, synthesis, evaluation” (Baker, 1993, p. 11). Second language speakers will thus find themselves faced with learning contexts where the second language is dominant and there is not sufficient contextual support. This is what Cummins (1996, p. 57) refers to as “context reduced and cognitively demanding” as in the “D” quadrant (see Figure 2).

Cummins (1996, p. 57) elaborated on his earlier concepts the “Basic Interpersonal Communicative Skills (BICS)” and “Cognitive/Academic Language Proficiency (CALP)” by using a framework that distinguished between the demands of contextual support and level of cognitive involvement. According to this framework, “context-embedded” contexts would possess sufficient linguistic support that is related to everyday, informal situations of the learner; and “context-reduced” contexts would be linguistically demanding, common for learners in Additional language learning (Cummins, 1996). This model forms part of the theoretical framework used in this study. This framework consists of four quadrants A, B, C and D. These quadrants are related to first, third, second and fourth quadrant as represented in Figure 1. See Cummins’ model indicating the “range of Cognitive and linguistic demands made on students and Contextual support available for communication” (Cummins, 1996, p. 57).

Figure 2: Cummins' Theory: Range of Contextual Support and Degree of Cognitive Involvement in Communicative Activities



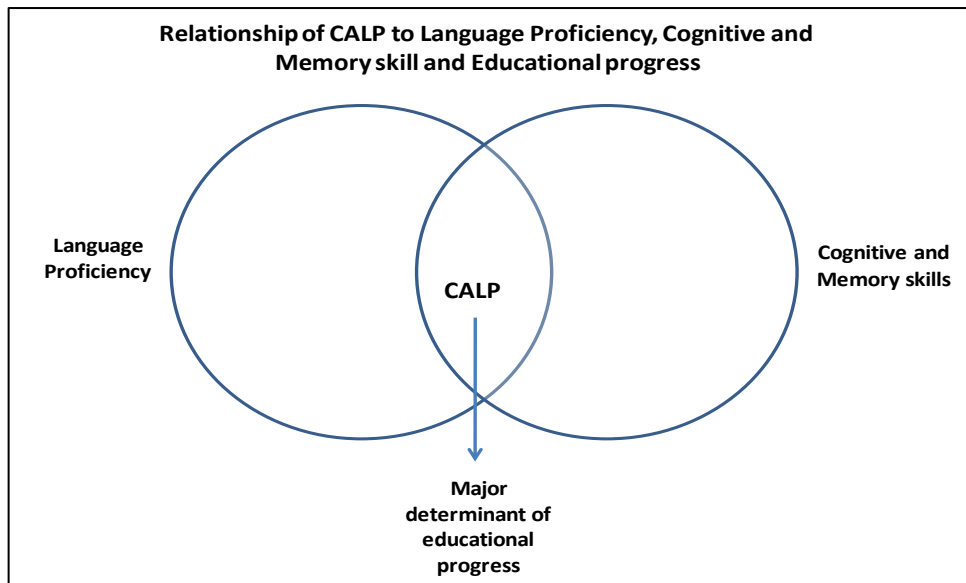
(Cummins, 1996, p. 57)

Cummins' A quadrant contains tasks that are "context reduced, cognitively undemanding" and has casual conversations; quadrant C's tasks are "context reduced, cognitively undemanding" and thus both quadrant A and C fail to provide cognitive challenge or everyday informal language to facilitate academic language acquisition (Cummins, 1996, pp. 58-59). Quadrant B's tasks are "context embedded, cognitively demanding", and quadrant D's tasks are "context reduced, cognitively demanding" (Cummins, 1996, p. 59). Both quadrant B and D are cognitively challenging though quadrant B offers learners contextual support to meet the challenging tasks. Learners should thus gradually move from quadrant A to B to D to develop progression of academic tasks (Cummins, 1996, p. 58).

The third quadrant "B" is particularly relevant to this study. The space provided for the students is assumed to have sufficient help in terms of shared cultural and linguistic tools. On the other hand students discussed intellectually challenging abstract Education Studies concepts mostly in Sepedi and to a lesser degree English. The goal of the project was to engage them in this more comfortable space in order to allow them to develop towards the fourth quadrant which is "context reduced" and "cognitively demanding" (Cummins, 1996, p. 57).

There is also a need to investigate the collaboration between a first language (L1) and a second language (L2) in respect of CALP. The relationship between CALP, general language proficiency, cognitive skills, and the educational progress as represented by Cummins is shown in Figure 3.

Figure 3: Relationship of CALP to Language Proficiency, Cognitive and Memory Skill and Educational Progress



(Cummins, 1980, p. 178)

According to a summary provided in Cummins (1980), CALP is a prerequisite for success in academic contexts. Of importance here is that CALP assumes success in education, whilst backed by language proficiency and cognitive skills. I investigated how everyday and informal students’ first language can be used as a bridge between “context embedded, cognitively demanding” “B quadrant”, to “context-reduced, cognitively demanding” “D quadrant” (Cummins, 1996, p. 57).

2.2.3 Biggs’ SOLO Taxonomy

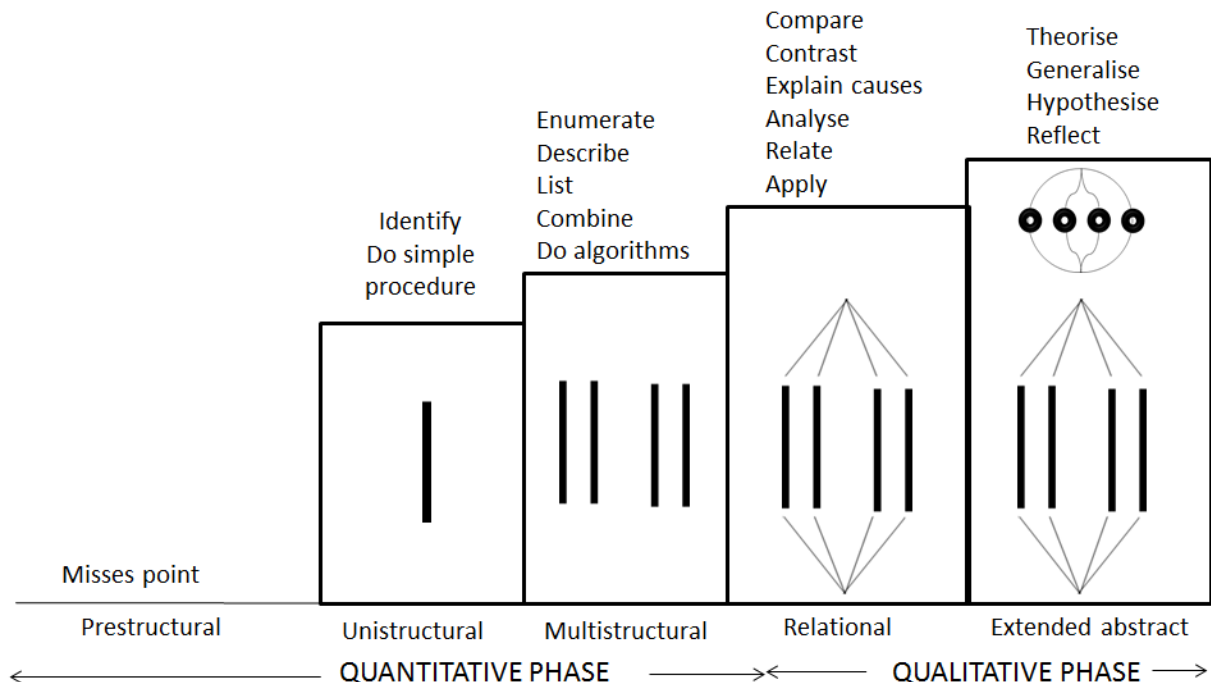
In this study, language enables students to explore new abstract concepts and theories, and in this way engage in deep thinking. Biggs’ taxonomy of Structure of Observed Learning Outcomes (SOLO taxonomy) is a taxonomy of thinking that operates with five different levels of thinking (Chamberlain, Button, Dison, Granville & Delmont, 2004). Five levels of thinking identified in Biggs’ SOLO taxonomy, range from “pre-structural, uni-structural, multi-structural, relational to meta-cognitive level” (Biggs, 2003, p. 3).

The levels range from lower order to higher order level of thinking. There are also verbs that identify each level of understanding in the taxonomy. Though Biggs (1999) intended the taxonomy to be used to describe the learner’s depth in achievement of outcomes of written tasks, I thought the taxonomy could be applied to describe the depth of thinking achieved by students during discussions. O’Keefe (1995, p. 9) argues that “speaking, by its nature, has a unique role in the development of the mind because it is a social act”. Therefore, speech as used during the students’ discussions in the case study enables students to develop their thinking. The responses from other students helped peers to internalise and make their own meanings during the talk.

During the case study Biggs’ taxonomy was used in the data analysis to observe the level of students’ thinking as they explored education concepts. Data analysis indicated that students were able to use higher order thinking levels.

(See Biggs’ SOLO taxonomy for further clarification on task verbs at different levels.)

Figure 4: A hierarchy of verbs that may be used to form curriculum objectives (Biggs’ SOLO Taxonomy)



(Biggs, 2003, p. 3)

2.2.4 Exploratory talk

When students participate in discussion groups, they inevitably use talk in a particular manner. Mercer et al. (1999, p. 3) assert that exploratory talk is talk “in which partners engage critically but constructively with each other’s ideas”. This talk must thus follow certain characteristics. The principles of exploratory talk are clearly summarized by Mercer et al. (1999):

Statements and suggestions are sought and offered for joint consideration. These may be challenged and counter-challenged, but challenges are justified and alternative hypotheses are offered. (Mercer et al, 1999, p. 3)

Group interaction results in a kind of discourse that can be observed with fascination. This is a kind of context where students engage with a wide range of speech acts. Mercer (1995, p. 105) observe “speech acts” such as “assert, challenge, explain, request”. Such contexts allow students to show different learning strategies and practices.

Exploratory talk also has strengths in the learning process. Children assist each other to think deeper and individually find suitable strategies for using language to think. The latter is illustrated in an experimental teaching programme with sixty British primary school children, for the purposes of helping children use language effectively for thinking. Mercer et al. (1999, p. 4) describe some advantages of exploratory talk. These are “to help children to reason together more effectively, to help children develop better ways of using language as a tool for reasoning individually, and that it can be increased by using specially designed teacher-led and peer group activities”. Clearly exploratory talk is useful as peers participate in discussion groups in many learning situations. In this study I wanted to observe the kinds of talk that emerged as students used their mother tongue, Sepedi, to discuss concepts.

Speech is also linked to thinking, which is helpful for the cognitive development of students in higher institutions of learning. O’Keefe (1995) asserts:

... Talking and listening must be treated with as much respect as reading and writing, since they are the media through which learning takes place. (O’Keefe, 1995, pp. 9-10)

In most academic contexts reading and writing are considered key learning skills, yet it is through talking and listening that individuals build thought as speaking is linked with

thought. In this study students used talking and listening and in the process engaged in higher order thinking processes (see analysis of data in Chapters 5 and 6). Seven attributes of speech that relate directly to the control of thought processes are identified and discussed in Barnes (as cited in O’Keefe, 1995, pp. 9-10), and includes:

- Outer speech is for an audience that will demand clarity if the speaker is not clear;
- Expressive speech is higher in hypotheses and testing devices: marked by tentativeness and questioning and is more open to modification than statements presented in perfect or elaborate forms;
- Through talk we receive meaningful perceptions of others’ worlds and we can reinterpret and adapt them to our own;
- Rearticulation of ideas establishes concepts;
- Speech helps us to stand outside our own knowledge and incorporate others’ viewpoints into our own inner views;
- Discourse improves thought elaboration;
- Interpersonal speech becomes intrapersonal as the process of group hypothesizing, testing, and questioning is transferred to individual thought patterns. (Barnes, 1976, as cited in O’Keefe, 1995, pp. 9-10).

During the discussions students listened attentively to others’ ideas and included them with their own understandings. They therefore transferred outer speech into inner speech. In many utterances students stood outside their own knowledge and looked back at what was happening. These kinds of thought processes were made possible by students’ speaking and listening in the group discussions.

Mercer (1995, p. 104) distinguishes exploratory talk from “disputational talk” and “cumulative talk”. Exploratory talk is known by making “knowledge more publicly accountable and reasoning is more visible in the talk” (Mercer, 1995, p. 104). In this kind of talk speakers strive to reach common understanding as a group. Therefore individuals are concerned with “discovering new and better ways of jointly making sense” (Wegerif et al., as cited in Mercer, 2000, p. 102). Speakers in exploratory talk enter arguments that will lead to constructive conclusions for the benefit of all. They follow neither the features of disputational nor cumulative talk. Where joint interests are followed, these should be “impersonal construction of explanations, answers or

solutions” (Mercer, 2000, p. 103). The thinking of the whole group is important in exploratory talk, as they challenge and debate issues to reach common goal. Thus exploratory talk “foregrounds reasoning” (Mercer, 1995, p. 105). Such reasoning is facilitated by challenge and debate during talk. Exploratory talk thus is more advantageous in learning contexts where students need to assist each other to reach joint conclusions in terms of their understanding of content knowledge. It is suggested that we also need to move further in analyzing the nature of the discourse in relation to the “cultural level - principles of accountability, of clarity, of constructive criticism and receptiveness associated with the culture of formal education” (Mercer, 1995, p. 106). This study also observed how students engaged exploratory talk where “talk knowledge is made more publicly accountable and reasoning is more visible in the talk” (Wegerif et al., 1999, p. 496) as the group worked together to reach understanding of Education Studies concepts.

Disputational talk on the other hand is known by “disagreement and individualized decision making” (Mercer, 1995, p. 104). Therefore disputational talk is identified when speakers work to “keep their identities separate and to protect their individuality” (Mercer, 2000, p. 102). This kind of talk will not necessarily benefit formal learning contexts where individuals share ideas openly and reason together through talk in order to reach constructive decisions. During the observation of the group discussion in the study, it was important for students to use talk that would benefit formal learning rather than talk that would promote differences of opinion, although this could also help understanding.

Mercer (1995, p. 104) identified “cumulative talk” as characterized by “repetitions, confirmations and elaborations”. In cumulative talk “... individual differences of perceptions or judgment are minimized” (Mercer, 2000, p. 102). In this kind of talk individuals emphasize commonality. In the study it would be interesting to observe whether cumulative talk might be favoured by students who shared a common language and talked about challenging education concepts. Cumulative talk is not fraught with “assertions and challenges or counter-assertions” as in disputational talk, or reasoning that leads to “eventual joint agreement” as found in exploratory talk (Mercer, 1995, p. 104). Speakers in cumulative talk “build on each other’s contributions, add information of their own in an uncritical way to finally reach understanding” (Mercer, 2000, p. 96).

It is thus clear that individuals in this kind of talk pursue similarities and avoid challenges or robust reasoning during talk.

Exploratory talk emerged as learning practices that Sepedi speaking students used during their exploration of Education studies concepts.

2.2.5 Concept learning

School learning is about concept learning that develops thinking. In order to apply our minds to different issues in our environment, we use concepts. Thus concepts are regarded by Stuart (2001, p. 121) as “tools for thinking about the world”. At university the “Discourses” of different courses relate to specific language peculiar in each context. It is through these “secondary Discourses” that students are able to understand the thinking in different disciplines (Gee, 2009, p. 174). Yet it is not easy to discuss concepts peculiar in each course because concepts are not easily accessible as they are “constructs of the mind”. Discussions that entail abstract concepts require individuals also to engage in deep thinking. Thus when students are interactively involved they are able to assist each other to think about the theoretical concepts. Stuart (2001, p. 121), agrees that concepts are “abstractions that enable us to discuss events and ideas”.

When concepts are taught, teachers start from the learner’s previous knowledge and build these through carefully structured learning activities, drawing factual knowledge to reach the abstract concept (Stuart, 2001). These teachers act as the “more knowledgeable other” as they facilitate learning (Vygotsky, 1978, as cited in Bennett & Dunne, 2001, p. 53). In this research, peers were expected to collectively help each other in ways that none of them would have been able to do individually. This notion assumes collaboration between peers. The students’ first language, Sepedi, that was used during the research, could also act as an important medium that helped students to access the otherwise challenging education concepts. The students’ previous knowledge could also be used to explore education concepts.

The study took students who were registered in Education Studies where they discussed concepts already taught in their general tutorials. The smaller groups gave students an opportunity to observe and talk about their understanding of these concepts and what kinds of pre-knowledge assisted them to reach understanding.

2.2.6 Making mistakes

In all learning contexts learners make mistakes. It is important for teachers to accept those mistakes because they allay their fears and encourage further exploration that deepens learning. Dennett (2001, p. 106) regards making mistakes as the “secret of success”. It is advised too that one should not avoid making mistakes but actually “cultivate the habit of making them” (Dennett, 2001, p. 107). Mistakes should be encouraged because they will serve as an opportunity to correct the mistakes and in this way facilitate learning and deeper understanding. What should be avoided is making fatal mistakes, those you will not be able to recover from. Dennett (2001, p. 109) confirms that “the secret is knowing when and how to make mistakes, so that nobody gets hurt”. This makes me think of a doctor making a mistake in major surgery - such mistakes should be avoided. Learners and teachers should look for opportunities to make mistakes so that they can learn from them.

This study provided students a “safe space” where the students were encouraged to make mistakes without the fear associated with formal contexts. Making mistakes also happened amongst a group of peers that shared a similar cultural background in this study. In the group sessions the students were at ease and this allowed them to make mistakes. Students easily accepted mistakes as they collaboratively deepened their understanding of academic concepts.

2.3 Bilingual/Multilingual practices

2.3.1 Code-alternation

Code-alternation is a common bi/multilingual practice. It has been recognized as commonly used in “urban and non-urban schools” (Makalela, 2009, p. 175). Other forms of code-alternation include “code-switching”, “code-mixing”, “code-borrowing” and “code-translation” (Makalela, 2009, pp. 175, 183).

Code-switching (CS) is a term used to “identify alternations of linguistic varieties within the same conversations” (Myers-Scotton, 1993b). Therefore, it is clear that individuals code switch because they can speak more than one language. During code-switching individuals also tend to use one specific language more than the other(s). Myers-Scotton (1993a, p. 3) affirms too that “code-switching is the selection by

bilinguals or multilinguals of forms from an embedded variety (or varieties) in utterances of a matrix variety during the same conversation”. The “matrix language” is the main language used for communication and the other languages which participate in the main language but to a lesser role are referred to as “embedded language” (Myers-Scotton, 1993a, p. 3). African languages in South Africa have not been developed sufficiently to be used as languages of learning. There appears unwillingness on the part of practitioners at institutions of higher learning to use indigenous languages for higher order thinking. I would therefore expect that if participants’ code switch, Sepedi would be the main language and other languages would play a lesser role. Yafele (2009, p. 85) also concurs that “specialist or subject specific terms for academic subjects are not always available in Sepedi”. I was keen to observe how the students would use code-switching when learning through their home language.

When speakers alternate codes from one language to another the main language used will tend to impose its structural aspect on the lesser used language. Myers-Scotton (1993a, p. 3) confirms that “the matrix language sets the morpho-syntactic frame of sentences showing the code-switching”. In my study Sepedi was the main language used and therefore the morphological and syntactical traits of Sepedi would set the frame of sentences during code-switching.

Peires (1994, p. 15) in her study on the role of code-switching at the University of Transkei concluded that “code-switching is firmly established in learning situations where the learners share a common language and a second language is the medium of instruction”. It was interesting to observe how and when Sepedi students in the study used code-switching, especially in their commonly shared everyday language Sepedi, and English, their language of learning and teaching used at Wits University. The students also used English as LoLT in their junior primary school and high school education.

According to Myers-Scotton (1993a, pp. 3-4) there are two types of code-switching that can occur in sentences, “intersentential and intrasentential”. The “intersentential code-switching” where speakers will “switch from one language to the other between sentences”, where speakers will utter one whole sentence or more in one language before they switch to the other (Myers-Scotton, 1993a, pp. 3-4). On the other hand,

there are “intrasentential switches” that “occur within the same sentence or sentence fragment” (Myers-Scotton, 1993a, p. 4).

People generally use code-switching for a particular function. Baker (1993) lists a number of purposes for code-switching. I find some of these particularly interesting. Code-switching is used “because a word is not yet known in both languages, for ease and efficiency of expression, repetition to clarify, to quote someone and to emphasize a point, to cross social and ethnic boundaries, to interject a conversation and to express group identity and status” (Baker, 1993, p. 77).

Sometimes speakers tend to use just one word in the sentence borrowed from another language. According to Baker (1993, p. 76) this tendency is referred to as “code-mixing” a term used to describe “changes at the word level”. For example, *Ke ngwala* speech (I am writing a speech), would be regarded as “code mixing”. In this sentence, “*Ke ngwala*” “I am writing” is from Sepedi and “speech” is taken from English). Code-mixing is similar to code-borrowing. It refers to the “insertion of an alien lexical or phrasal category into a given structure” (Muysken, 2004, p. 3). In bi/multilingual contexts, people tend to use different forms of code-alternation.

Code-borrowing occurs “... at any point at which two languages come into contact” (Kaplan & Baldauf, 1997, p. 233). In this study two languages, Sepedi and English will come into contact. In this context I will observe the kind of borrowing that occurs. Where a word is borrowed and “integrated phonologically and morphologically into the base language”, the strategy is termed “integration” (Makalela, 2005, p. 175). I will gauge the kinds of borrowing that occurred during the students’ interactions. Where a word is borrowed and used without changing it, the strategy is referred to as “transference”, and is used to develop new terminology (Ramani et al., 2007, p. 213). African indigenous languages lack technical terms for academic concepts. During students’ interactions, I will observe whether students borrow terms from English without changing them.

Another form of code-alternation is “code-translation” (Makalela, 2009, p. 183). According to Malakoff and Hakuta (1998, p. 146), translation “involves replacing an utterance in the source language with an equivalent utterance in the target language ...”. Students in this study use their home language during discussions, but their language of learning is English. I will observe how code-translation is used in this study.

Farrugia (2003), in a study of primary school mathematics in Malta, observed how a teacher, Angela, used translation between a local language, Maltese, and English to teach learners mathematical concepts. She observed that Angela also used translation when there was a “Maltese equivalent for a mathematical word” (Farrugia, 2003). The researcher’s focus was on the teaching the meaning of mathematical vocabulary and thus on teacher’s strategies. It will be interesting in this study to observe how students will use translation between their home language, Sepedi, and Education concepts conveyed in English as LoLT. The aim of translation is to enhance understanding as confirmed by Malakoff and Hakuta (1998, p. 146) that translation enhances “... communication for monolingual speakers of the target language”.

On the other hand Myers-Scotton (1993b, p. 113) uses the “markedness model” to explain socio-psychological motivations of individuals to use codeswitching. She lists the “unmarked-choice maxim; the marked-choice maxim; and exploratory-choice maxim” (Myers-Scotton, 1993b, p. 113).

In my study students used the “unmarked-choice maxim” because code switching was regarded as normal and expected by peers. Students shared a similar language, Sepedi. They all used English from Grade 5, throughout primary and secondary schools and presently at Wits University. Thus the students could switch between Sepedi and English, as they were fluent in both languages, having used these languages for a considerable time during their learning years. Myers-Scotton (as cited in Peires, 1994, p. 14) asserts that code switching is generally “part of the performance of fluent bilinguals”. In my study students often used Sepedi and English interchangeably.

In the South African context where bi/multilingualism is becoming a common feature of communication, it was interesting to observe how students employed this feature in their discussions in this project.

2.3.2 Bilingualism

Bilingualism is a learning practice experienced in multilingual contexts. Bilingualism “refers to the use of two languages” (Hakuta, 1990, p. 47). Bilingual education programmes assist the home language to be included in the learning of second language speakers, thus promoting success in their learning. In the United States, between 1970

and 1980, many schools were faced with the challenge of English second language learners whose performance in schools was low. It was observed that “the United States’ public school system was failing with regard to the achievement of minority children” (Kagan, as cited in Lindholm, 1990, p. 92). They asserted that bilingual programmes could promote success in education rather than merely the learning of English and so benefit minority groups (Lindholm, 1990, p. 92).

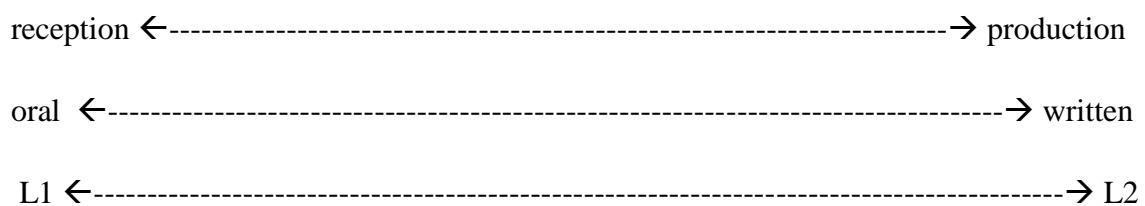
According to Malakoff and Hakuta (1990, p. 27) bilingualism was opposed in countries like America when it was needed by the Spanish-speaking immigrants. It was regarded, for instance, as “unnecessary coddling and spoiling of new immigrants, thus eroding the strength of the English language – an important symbol of American unity” (Malakoff & Hakuta, 1990, p. 27). However, research done by Hakuta (1990) concludes that bilingualism shows a number of cognitive and/or intellectual benefits. This conclusion is based on a study that began at McGill University in Montreal. This study examines “children who are roughly equal in their abilities in two languages” (Hakuta, 1990, p. 49). The results of this comparative study revealed a better performance of bilingual children as compared to monolinguals. Hakuta (1990) found bilingual children were superior in “metalinguistic ability, which refers to the ability to think flexibly and abstractly about language” (Hakuta, 1990, p. 49).

According to Baker (2006, p. 288), “academic empirical research supports strong forms of bilingual education where home language is cultivated”. This statement affirms the advancement of both first and second language for learning in all subjects. In South Africa the new curriculum for schooling also supports additive bilingualism, where the first language continues to be developed alongside the LoLT. Continuity with additive bilingualism becomes an issue in most South African universities, where some students’ first language is discontinued as a requisite for course completion. Some of these students were in their first languages which were largely marginalized. Their situation is perpetuated at some institutions of higher learning. This impedes the development of African languages in academia and perpetuates the dependence of learning through English. On the other hand, such students are deprived of the academic benefits enjoyed by most bilingual students.

Hornberger’s (1989, as cited in Hornberger & Skilton-Sylvester, 2000, p. 97) proposed the “continua model of biliteracy”, which I consider to be of value to my study. This

model offers a theoretical framework that can be used in “research, teaching and language planning” in multilingual contexts (Hornberger, 2004, p. 155). According to this framework, educators and learners should draw freely on all points of the continua. In this way, there is no end of the continua that enjoys power or privilege over the other. For example, using Hornberger’s concept of the “development of biliteracy”, students in this study may be able to “develop biliteracy along intersecting first language-second language, receptive-productive, and oral-written language skills continua” (Hornberger, 2004, p. 156). The diagram below demonstrates this process:

Development of biliteracy



Adapted from Hornberger, Figure 3, The continua of biliteracy Hornberger, (2004, p. 158)

In her study of Cambodian and Puerto Rican students in Philadelphia’s public schools, and the challenges faced by their educators, she concludes:

“ ... the more their learning contexts allow learners to draw on all points of the continua, the greater are the chances for their full biliterate development” (Hornberger, 1989, as cited in Hornberger & Skilton-Sylvester, 2000, p. 98).

This framework will benefit this study because it confirms, for example, the context of biliteracy where students use talk, which is “oral” from their home language to develop the expected “written” literacy in the Education course. Educators and learners would use both ends of the continuum. It has been observed that in some biliterate learning contexts there is tendency to privilege one end of the continua over the other. This situation is also associated with power (Hornberger & Skilton-Sylvester, 2000, p. 98). In this study students will be allowed to begin from their first language (L1), which has been less privileged as medium of instruction over English and move towards the development of the second language (L2).

The students' will be encouraged to use dialogue to think about Education concepts, and the product will be conveyed in their classrooms in "written" form which rests on the other end of the continuum (Hornberger, 2004, p. 158).

The proposed language policy at the Wits School of Education in 2011, where this study was undertaken, caters for English and isiZulu first language students. Sesotho and Sepedi are currently in abeyance. Sepedi, Sesotho and isiZulu are taught as Second Additional languages to students who are not mother tongue speakers. In this context, multilingual students who stand to be disadvantaged will continue to develop English, the language of learning of the institution, and not their home language. Such a practice asserted by Diaz and Klingler (1998, p. 175) leads to "a gradual loss of the first language as a result of increasing mastery and use of the second language". In this study, Sepedi students could benefit as they continue to develop their language for academic purposes alongside English as the language of learning.

2.4 The power of English

English or Afrikaans have been the two official languages used in education in the South African context to the exclusion of the other South African indigenous languages. English has had great power in many parts of the world as a "leading language for the dissemination of academic knowledge" (Hyland & Hamp-Lyons, 2002, p. 2). This has also been the case in family, academic and socio-economic contexts in South Africa. Thus many parents in South Africa still believe English medium education will offer better education for their children as they equate English with greater opportunities. This reasoning has been engrained in communities. Fairclough contends that parents act within spaces provided to them by society – they therefore act "within the constraints of types of practice" (Fairclough, 2001, p. 23).

Fairclough (2001, p. 14) maintains that "actual discourse is determined by socially constituted orders of discourse, sets of conventions associated with social institutions". Thus discourses acquired in family settings will differ from discourse acquired in institutions outside the family. Our Sepedi speaking students have been taught through the medium of English from Grade 4. Their home language, Sepedi, has been taught as a subject alongside the LoLT. They have thus not experienced their home language as a language of power in education. Instead it is English that is viewed as the language of

power and importance in their education. English is thus equated with education and Bloch and Alexander (2003, p. 96) see this tendency as “deeply carved into the psyche of people who have bitter memories of an inferior early education being forced on them through the medium of their mother tongue under apartheid”. It is further observed by Matiki (2009, p. 52) who highlights “the negative attitudes that speakers have towards their indigenous languages in the face of an economically and politically powerful second language”. Another weakness of subtractive bilingualism is that it can lead to students developing a “negative attitude either about their first or second language” (Bagwasi, 2009, p. 63) and thus the urgency to think of strategies that can be used to curb these negative feelings in contexts where subtractive strategies are implemented.

Whilst the power of English exists in contexts where English is the LoLT, mother tongue instruction proves to impact positively on students’ performance in classrooms. In Ghana, a researcher compared the achievement of learners in English monolingual classes with classes where a local language, Fante, was used. Findings showed that learners participated more in Fante medium classes as compared to their English counterparts (Andou-Kumi, 1998, as cited in Opoku-Amankwa, 2009).

According to Heugh (1999, p. 77), in 1976 the performance of black learners at matriculation level in South Africa reached its peak at 83,7% as mother tongue was used for eight years in primary education during Bantu Education. This performance dropped to 48% in 1982 and 44% in 1992. These results emphasize Cummin’s “threshold hypothesis” that learners need to achieve a particular level of L2 competence and with assumed high competence of L1, will become bilingual and influence intellectual development (Cummins, 1976, as cited in Skutnabb-Kangas, 1981, p. 223). The use of learners’ home language at matriculation level in 1976, was influenced positively by learners’ time spent in primary school using mother tongue instruction. Though the aim of this study is mainly to observe the kinds of practices that emerge during students’ interactions, students’ performance will also be evident during interactions and from the nature of students’ reflections at the end of the study.

In this study I also wanted to observe how students experienced their mother tongue in an academic context during the discussions.

2.5 Discourse and Literacies

Language is usually mistakenly regarded as “grammar, the meaning it conveys and the communicative functions it conveys” (Gee, 1996, p. 124). However, human beings use language in particular social settings. In such contexts, one needs not only to speak grammatically but “one must simultaneously say the ‘right’ thing, do the ‘right’ thing, and in saying and doing express the ‘right’ beliefs, values and attitude” (Gee, 1996, p. 24). It is therefore clear that when we communicate this involves more than knowing the grammar of a language. We bring our whole being to the act of communication. Therefore in this case study students were expected to use their home language, not just the grammar, but their cultural traits and philosophies to allow them to communicate effectively with peers. Based on those reasons Gee (1996, p. 126) further stresses that people engage in “discourse for connected stretches of language that makes sense, as in conversations, stories, reports, arguments, essays and so forth”. In this study students engaged in “conversations” about their academic concepts that at times might have led to “arguments” as they strived to reach consensus in the group. These students were also expected to write individual reflections of their weekly one hour group discussions over the period of their participation in this research.

2.5.1 Primary and Secondary Discourses

Discourses are about “saying (writing)-doing-being-valuing-believing combinations” (Gee, 1996, p. 127). When we communicate, we bring who and what we are to the conversation. We communicate in ways that “integrate words, acts, values, beliefs, attitudes and social identities, as well as gestures, glances, body positions and clothes” (Gee, 1996, p. 127). In most learning contexts where language is used, we need to realize that the focus should not be on the accuracy of grammar but on the Discourses.

When students engage generally in classroom discussions on their subjects, they do so using the LoLT, which is English. However subjects have their own peculiar language - their own “Discourses” (Gee, 2009, p. 174). These kinds of discourses are used in particular domains as being distinguished “Discourses”. On the other hand, human beings “become members of one Discourse – their primary Discourse (Gee, 2009, p. 173). These serve as a framework for the acquisition and learning of other Discourses in life. People acquire their “primary Discourse” in families “within what constitutes their

primary socializing unit early in life” (Gee, 2009, p. 156). The students in this study are expected to have acquired Sepedi, their primary Discourse, earlier in their lives in homes and cultural communities.

Outside home individuals develop other discourses in the different social institutions, such as schools, workplaces, stores, churches. These are termed “secondary Discourses” which extend from their “primary Discourses” (Gee, 2009, p. 174). What students brought to our discussions was their primary Discourse, Sepedi. They needed to interact closely with a secondary institution, the university, in order to develop secondary Discourses. This may have enabled them to “have access to and practice with (apprenticeship in) these secondary institutions” (Gee 2009, p. 174). First year students entering university also have to develop secondary Discourses for various courses, including those of Education Studies. These secondary Discourses should be able to “build on and extend on the uses of language and values, attitudes, and beliefs of primary Discourses” of these students (Gee 2009, p. 174). Therefore the students’ language served as a basis for the learning of other secondary Discourses.

Secondary Discourses can be related to social institutions in our immediate localities, said to be “community-based” or more public said to be “globally oriented” in a dynamic way (Gee 2009, p. 174). English is a secondary Discourse for the Sepedi participants in the study. English also has a public orientation because it has global influence in many countries and contexts as a dominant secondary Discourse.

In most academic institutions students face English as a language of academic discourse and they need to be fluent in order to understand these disciplines. Students in this research had to master the educational academic discourse – a secondary Discourse. English as LoLT places a strain on English additional language students’ academic life at university. The students in this study discussed concepts that were peculiar to the secondary Discourse of Education Studies, but they did so through their “primary Discourse”, Sepedi, which was the students’ everyday language (Gee, 2009, p. 174), and which was a different Discourse from the LoLT.

According to Hyland and Hamp-Lyons (2002, p. 2) university needs and practices demand that students be grounded in the “cognitive, social and linguistic demands of specific academic disciplines”. Thus English for Academic Purposes (EAP) has been an important venture in many learning contexts. EAP can be helpful where there are

constraints on language use as they provide means for learners to gain control over them. The students at Wits School of Education needed to master English that would help them to succeed in reading prescribed texts, writing and doing research in their areas of expertise. Those engaged in EAP develop in learners new kinds of literacies. They develop in them communicative skills to take part in specific academic and cultural contexts (Hyland & Hamp-Lyons, 2002, p. 2). First year students at Wits University register for a compulsory New Literacies Course with a strong focus on different literacies that prepare students for an academic environment. This course attempts to capture students' previous literacies and in this way makes a meaningful link between students' past and present literacies. However students have to use English, the LoLT, to acquire the literacies in the New Literacy Course.

Paxton (2007) also made a contribution to transforming academic contexts faced by second language students in academic contexts by introducing a concept which she calls "interim literacies". According to this notion, students' ability to use language is built from "a range of past and present discourses, discourse strategies and genre" (Paxton, 2007, p. 45). This view of literacy is a positive one as students do not lose the wealth of past experiences valuable in learning contexts. This idea was the outcome of research undertaken at the University of Cape Town, which "used linguistic and intertextual analysis to investigate the intersection of academic discourses and student voice" (Paxton, 2007, p. 45). Contexts that neglect students' past experiences can have negative effects.

As my students came together to use their language and discuss education concepts, they brought who and what they were. Boykin (1983, 1986, as cited in Parsons, 1997 p. 748) conceptualized nine dimensions that he termed Black Cultural Ethos (BCE), which characterized the way African Americans perceive, interpret and interact in the world. Boykin's dimensions include:

- Spirituality, approaching one's life intuitively as though governed by supreme forces;
- Harmony, emphasizing versatility and wholeness;
- Movement, interweaving the ideas of rhythm often associated with music and dance into everyday life;

- Verve, preferring intense stimulation and action that is energetic, alive and colorful;
- Affect, placing a premium on feelings, emphasizing a special sensitivity to emotional cues, and cultivating emotional expression;
- Communalism, being sensitive to the interdependence of people and committing to a social connectedness that esteems social bonds and responsibilities over individual privileges;
- Expressive individualism, cultivating a distinct personality and a proclivity for spontaneous, genuine personal expression;
- Orality, emphasizing oral and aural modes of communication and cultivating oral creativity.
- Social perspective of time, viewing time as a social phenomenon marked by human interaction and by the event shared by others
(Boykin, as cited in Parsons, 1997, p. 748)

In the Science project Parsons (2005, p. 187) observed the “mismatch between school norms and values and those of the homes and communities of ethnic minorities”. The mismatch was studied through the use of culturally relevant teaching in a Science project. Parsons (2005) incorporated cultural cues to deepen knowledge and to promote conceptual understanding of learners’ understanding in science. It was observed in such studies that learners’ understanding improved as they were exposed to familiar “competencies developed within their homes and communities” (Parsons, 2008, p. 667).

Learning contexts, where students’ cultural practices are linked to academic experiences appear to motivate students’ performance and thus lead to successful learning. In the research too, students who were very reluctant to participate in lectures and tutorials opened up during the Sepedi group discussions as, for example, peers used turn-taking that was culturally oriented. Quiet students in the group discussions were frequently targeted by their peers by name calling to take turns.

Some scholars also speak of everyday knowledge versus school knowledge, and black South African culture is not associated with school knowledge as this came together with Western culture. This way the students who are indigenous descendants of African heritage bring with them cultural capital that is different from what they find in their

classrooms. Au and Kawakami (1994) and Lee (2000, as cited in Parsons, Travis & Smith Simpson, 2005) further clarify the implementation of Black Cultural Ethos:

Culturally congruent instruction addresses the mismatch between institutional norms and values and those of homes and communities of ethnic minorities. The aim of culturally congruent instruction is not to replicate the students' home and community cultures but to incorporate them into what occurs in school and classrooms. (Au, Kawakami & Lee, as cited in Parsons, Travis, & Smith Simpson, 2005, p. 187).

The way African Americans collaborate in the world could be closely related to how South Africans interrelate in the world. It would thus be interesting to observe whether the South African group of students used some of the above dimensions during their discussions.

In this chapter I attempted to give an overview of the literature I used as theoretical framework for this case study. The literature related to students' learning practices that emerged during the students' discussions of Education Studies concepts through mother tongue. The context of the case study presented Vygotsky's (1978, p. 86) theoretical context, the "Zone of Proximal Development" as students helped each other from what they could do on their own without assistance to what they were able to do with the help of peers in the discussions.

Students' interaction in the group discussions of education concepts was linked to thinking and was facilitated by the students' first language, Sepedi. The students' everyday informal language supported students with contextual cues that helped them develop their understanding of challenging educational academic concepts. The development of concepts was also possible as students collaborated in the group in ways that would not have been possible individually.

I concluded that students' "primary Discourses" acquired in their families will form a good basis for the development of "secondary Discourses" - Education Studies theoretical concepts (Gee, 2009, p. 174). Students' language is contextually supported by cues peculiar to their own cultural contexts. The discussions assisted the students in developing Education Studies academic literacies as they used speaking and listening in their Sepedi discussions of Education Studies theoretical concepts.

CHAPTER 3

RESEARCH METHODOLOGY

PILOT STUDY

3.1 Introduction

This chapter will describe the research methodology used during the pilot study. It will include the context of both the pilot and main research studies and decisions taken during planning for the whole research study prior to the pilot study and research design. I will then analyze the data collected during the pilot study. This will be followed by a summary of findings, conclusions and recommendations for the main study. I conducted a pilot case study because I wanted it to inform me about the suitability of the research site (the University of the Witwatersrand) as well as to clarify research questions and research design. Yin (2009, p. 92) asserts that pilot case studies are "...more formative" because they assist researchers to "develop relevant lines of questions and provide some conceptual clarification for the research design as well". For this reason I decided to conduct a pilot study.

3.2 Planning for the research study

3.2.1 Plan 1

Originally I intended to undertake the whole study in the Limpopo Province, where Sepedi is the predominantly spoken language and thus influences from other languages were likely to be minimal. I also believed I would be increasing the opportunities for such a group to find alternative Sepedi terminology to discuss Education Studies concepts with more ease. I was unable to implement this plan because I would need to be absent for long periods of time from my workplace, the Wits School of Education, in order to collect data in the Limpopo Province. I therefore sought an alternative that would also satisfy the demands of my work related responsibilities.

3.2.2 Plan 2

After consultation with my supervisors, we agreed that the study be conducted at the Wits School of Education. I then proceeded with applications for ethical clearance from the Head of Department in the Faculty of Humanities at the Wits School of Education, which I received in October 2009. (Refer to the Application for permission to conduct research and the Ethics Clearance Certificate in Appendix A and Appendix B respectively.)

3.2.3 Final Processes

After receiving the Ethics Clearance certificate, I undertook to conduct a pilot study. This formed part of planning towards the main study. The purpose of the pilot study was to conduct research with participants and conditions similar to those in the main study. The results of the pilot study would then be used to formulate an MA by Dissertation. The details of the pilot study methodology will be discussed in this chapter.

3.3 Research Context

The pilot study and the main research study were conducted at the University of the Witwatersrand's School of Education, situated in Johannesburg, South Africa. The university annually admits students from a variety of backgrounds and cultures in South Africa and beyond. Thus it is a multicultural and multilingual university. The teaching staff at the university comes from a variety of linguistic contexts. During the pilot study, the demographics indicated a high number of English mother tongue speakers compared to other groups. Amongst the student community are students who are both Sepedi home language speakers and who also hold a Sepedi home language matriculation qualification. The majority of these students currently come from the Limpopo Province, situated in the northern part of South Africa.

At first year level all students at the School of Education register for an Education Studies course. This is a core course and is highly theoretical. During the period of this research study the course covered Psychology in the first semester and Sociology in the second semester. Assessments entailed writing assignments, tests and two three hour

examination papers – one written at the end of the first semester and the other at the end of the year. To succeed with these tasks, students must be able to understand the details of the concepts covered in the course.

The mode of delivery in this course includes lectures on specific concepts of the course delivered to all students, followed by tutorials in smaller groups. Students discuss and clarify their understanding of concepts during these tutorials.

The language of learning and teaching (LoLT) in the University of the Witwatersrand is English. For many African students in the university it is a second language. The use of a second language for learning at this level makes it challenging for some of these students, especially in theoretical courses like Education Studies. My research participants were selected from this first year group.

3.4 Participants

To select participants for the pilot study, I used the “purposeful sampling strategy” mentioned in McMillan and Schumacher (2006, p. 320). This kind of sampling requires the researcher to know the typical characteristics of the group under investigation. They were:

- Ten first year Education Sepedi speaking students registered at the Wits School of Education, who
- were Sepedi home language speakers, and
- who also held a matriculation qualification in Sepedi home language.

I sought participants with characteristics similar to those mentioned above from the first year Education group in 2009. I briefly explained my pilot study to the Education Course Coordinator and requested volunteers. The request was passed to the tutors and reached students during tutorials. There was no immediate response. After a month, I sought permission from the Coordinator to personally address students in their Education tutorials. Five months passed before seven students volunteered to participate in the pilot study. I arranged a meeting to brief them about the study. I also explained to them that I would only be able to begin with the research study after I had received ethical clearance. A week before final examinations in 2009 I received ethical clearance.

I could not begin with the pilot study as volunteers were preparing for their examinations.

In 2010 I had to look for a new group of volunteers. The 2009 group were in their second year of study and did not meet the research criteria of first year level students. I addressed the 2010 first year Education students during their tutorials and requested volunteers for the pilot study. Six months passed before eleven students volunteered. I arranged a briefing session on the pilot study with the volunteers. This meeting took place in a tutorial venue on the premises of the Wits School of Education. I gave the volunteers an overview of the study and I also informed them that I wanted to use the results of the pilot study to write a proposal for an MA by Dissertation degree. I discussed ethical issues with participants in our first meeting in the following way:

- Their participation in the study was voluntary, and no student would be disadvantaged in any way for choosing not to participate;
- No identifying information would be required from them;
- Pseudonyms would be used in the study;
- They would be allowed to leave the study at any time if they so wished, and they would not be discriminated against;
- They would first be required to sign consent forms should they wish to participate in the study; and
- In the case of minors, a parent or guardian would be requested to sign consent forms on behalf of participants;
- The collected data would be processed by the researcher and the supervisor, and would be destroyed after five years.
- I was able to conduct the pilot study with them because I obtained ethical clearance that granted me permission to conduct the study from the Head of Department of the Ethics Committee at the University of the Witwatersrand in October 2009.

I then handed participants the following documents:

- A participant's information letter which explained the purpose of the pilot study including a formal invitation to participate in the study. (See Appendix C)

- Consent forms to read and to sign should they wish to participate in the pilot study. (See Appendices D-H). These consent forms gave the participant's consent to take part in individual interviews and having these interviews recorded as well as participation in the weekly one hour Sepedi group discussions of Education Studies concepts and recording the discussions; and
- Parent/guardian consent form for minors. (Refer to Appendix H.) All participants in the pilot study were adults. They signed their own consent forms in July 2010, at the Wits School of Education.

I experienced problems with the pilot study. I lost three hours of tape recorded data when my tape recorder was stolen. It took students five months in 2009, and six months in 2010 before volunteering to participate in the pilot study. Two reasons were raised for the delayed volunteers' responses:

- Students' identity problems: Students were not comfortable with peers associating them with the Limpopo Province. They felt that the province was widely regarded as being rural and old fashioned, while they were young and fashionable.
- University workload overwhelming: Students experienced university work to be overwhelming and unfamiliar. They wanted to be in control of their workload before volunteering to participate in the pilot study.

3.5 Research Design

A case study design was selected. Yin (2009, p. 26) considers a research design as a "logical sequence that connects the empirical data to a study's research questions and, ultimately, to its conclusions". Thus a case study was suitable for this research study, as it linked data collected in the pilot study until it reached final conclusions. I had also read literature related to the research, and this pointed to the suitability of a case study design. Yin (2009, p. 35) also agrees that "theory development as part of the design phase is essential" when preparing for case studies.

One of the first steps taken in case study design is researchers doing a literature review related to their study in order to formulate research questions. I also collected theory from existing literature related to my research study. I used the theory to formulate the

main research question and sub-questions. Yin (2009, p. 3) asserts that in case studies, the “path begins with a thorough literature review and the careful and thoughtful posing of research questions and objectives”.

The theory highlighted the importance of first language learning for understanding challenging learning content. Literature pointed to the value of a good knowledge of students’ first language as a basis for learning in second language contexts. In such contexts I was also made aware that bilingualism and code-switching between the student’s home language and the language of learning and teaching is used by some students when exploring academic content. I also realised that the language of learning and teaching used in some countries like South Africa, is a language of a dominant minority group. In South Africa English and/or Afrikaans have been two languages used as languages of learning and teaching in most learning contexts. These languages belong to minority communities as compared to the majority of indigenous African communities whose languages have not yet been developed to attain the status as language of learning and teaching in most learning contexts. Literature also pointed out that understanding is made possible when a learner is “interacting - with people in his environment and in cooperation with his peers” (Vygotsky, as cited in Bennett & Dunne, 2001, p. 53).

Developing the initial literature review also made me aware that when we communicate, we bring who and what our identities are to the conversations. We communicate in ways that “integrate words, acts, values, beliefs, attitudes and social identities, as well as gestures, glances, body positions and clothes” (Gee, 1996, p. 127). Mercer (1995, p. 104) points to three ways of talking: “disputational”, “cumulative” and “exploratory talk”. In the discussions, I realised students used exploratory talk in the pilot study.

The research design assisted me in selecting appropriate data collection and data analysis methods relevant to the design. I therefore selected semi-structured interviews, observation, students’ reflections and field notes to collect data. For data analysis I chose a thematic content analysis method. All these strategies are commonly used in qualitative research study.

Both interviews and observations were conducted on the premises of the Wits School of Education. Students were requested to write reflections of group discussions at the end of each session. After completion of the first interviews, I created an informal space on

the premises of the Wits School of Education for the research. Participants spent one hour a week discussing Education Studies concepts through their home language, Sepedi. Students had to complete all their weekly lectures and tutorials in Education Studies before participating in these discussions. A total of five hours of group discussions was tape-recorded during the pilot study. Only two hours remained after my tape recorder with all my data was stolen from my office. I also compiled field notes randomly during my observation of the group discussions. I occasionally requested participants to write their reflections of group discussions. I realized later that I missed some important information by not capturing participants' reflections of all the sessions.

I took the role of a non-participant observer during the pilot study. Nevertheless, I did not keep to the contract. During the third hour group discussion, students were not showing progress and were disrespectful of others' ideas and I felt I had to intervene. Based on these reasons, I decided to change my role during the main study.

3.6 Research Approach

I selected a qualitative research approach because it was most suitable for an educational case study design. In such a study one specific incident is a focus for research. Mouton and Marais (1994, p. 162) state that in qualitative research "the researcher is involved with events/phenomena, and the context is taken into account". In this research it would be a group of Education Studies, Sepedi home language students at Wits University, discussing Education Studies concepts through the medium of Sepedi.

On the other hand, qualitative research studies usually concern themselves with human events. In this pilot study, the research was concerned with people - the Education Studies students participating in a discussion of academic content - a process peculiar to human beings. This idea is confirmed by Schurink (2001, p. 241) that qualitative research "concentrates on qualities of human behavior, i.e. on the qualitative aspects as against the quantitatively measurable aspects of human behavior".

Commonly used methods to collect data in qualitative approach are, amongst others, interviews and observations. These methods were selected for this study for reasons discussed above. McMillan and Schumacher (2006, p. 475) also agree that qualitative

research is an “in depth study using face-to-face techniques to collect data from people in their natural setting”. The methods selected in the study also guided me to be present with the students collecting data during the study.

The approach also gave me the freedom to pursue the object of the study creatively. Silverman (2000, p. 2), asserts that “qualitative research is flexible as it encourages qualitative researchers to be innovative”. I thus did not experience any restrictions as I pursued the research study through the qualitative approach.

3.7 Data collection instruments

I used multiple strategies to collect data in the main study, as in the pilot study. I used interviews, observation of group discussions, students’ written reflections and field notes. I used a variety of strategies because I wanted to increase the reliability of the pilot study, affirmed by McMillan and Schumacher (2006, p. 340) that “the use of multimethod strategies enhances the credibility of the study”.

3.7.1 Semi-structured interviews

I designed semi-structured interviews, which were also tape recorded, at the beginning, middle and end of the study. Knobel and Lankshear (1999, p. 97) agree that interviews are “key data collection strategies in case study research”. This strategy was relevant for the case study as it allowed participants to elaborate their responses based on the specific item under discussion. McMillan and Schumacher (2006, p. 204) contend that in this type of interview the question “is an open-ended question but is fairly specific in its intent”.

The questions asked highlighted the kinds of challenges faced by English second language students learning Education Studies: the purpose of using code-switching during tutorials and the impact of research for learning an academic course. Participants were asked similar questions but this method also allowed me to probe participants further when the need arose. This interview practice is also suggested by Dearnley (2005, p. 22), who agrees that “semi-structured interviews allow all participants to be asked the same questions within a flexible framework”.

I conducted the first set of individual interviews for the pilot study in July 2010. Eleven students participated in this session. Five students participated in the second interview, which was conducted at the end of October 2010. Students did not take part in the third interview session during the pilot study as they were preparing and writing end of year examinations.

The first two sets of interview schedules that were used in the pilot study are shown below. The third and final interview schedule was not used, for reasons explained above.

Table 1: Interview Schedules 1-3

<p>Interview Schedule 1</p> <p>Before the group discussions: Individual interview</p> <ol style="list-style-type: none">1. How did you experience learning Education Studies concepts this term?2. How much code-switching did you use in your Education Studies tutorials: always/most of the time/occasionally/none? Supply reasons to support your response.3. How do you rate your participation in your Education Studies tutorials on a scale of 1-10? (1 being no participation and 10 being great participation) Supply reasons for your response.4. What major challenges do you face in learning Education Studies concepts?

<p>Interview Schedule 2</p> <p>During course of Research Study: Individual interview</p> <ol style="list-style-type: none">1. At this stage of your studying at the university, how do you find learning of Education Studies concepts?2. How much code-switching are you using in your Education Studies tutorials: always/most of the time/occasionally/none? Supply reasons to support your response.3. How do you rate your participation in your Education Studies tutorials on a scale of 1-10? (1 being no participation and 10 being great participation). Supply reasons for your response.4. What major challenges do you face in learning Education Studies concepts?

Interview Schedule 3

End of group discussion: Individual interview

1. How did you find the learning of Education Studies concepts through the medium of Sepedi during all the one hour weekly discussion sessions?
2. How did code-switching in your Education Studies tutorials assist/not assist you in your understanding of Education Studies concepts?
3. How influential were the one hour weekly discussions of Education Studies concepts to your participation in Education Studies tutorials? Also give your participation on a scale of 1-10 (1 being no participation and 10 being great participation).
4. How influential was the use of Sepedi to your participation during the one hour weekly group discussions of Education Studies concepts?
5. Overall, how are you managing the major challenge(s) you initially faced when learning Education Studies concepts? Supply reasons for your response.

3.7.2 Observation of group discussions

Observation of tape recorded group discussions was another method used to collect data during the pilot study. I randomly compiled field notes, while observing the weekly one hour group discussions of Education concepts in Sepedi. I compiled an observation schedule with items that confirmed some of the responses from individual interviews. I also wanted to holistically capture the impact of the research on learning and understanding of academic content. McMillan and Schumacher (2006, p. 346) agree that a “researcher uses multiple strategies to corroborate data”.

This research procedure was also complementary for observing the kind of talk used by participants in an academic environment in order to reach an understanding of intellectually challenging concepts. Henning, van Rensburg and Smit (2004, p. 91) agree that “observation aims to capture actions that demonstrate tacit knowledge of people who know the rules of action in a setting in order to fit into that setting”.

The participants used their home language to discuss Education concepts in order to promote their learning of the course. I compiled scanty field notes during the pilot study. I decided to compile detailed field notes during the students’ discussion in the main study so that I could have sufficient data to respond to research questions. I thus

compiled an observation schedule to assist during observation. (See Observation Schedule below)

Table 2: Observation Schedule

<p style="text-align: center;">Observation Schedule: Weekly one hour group discussion sessions.</p> <ol style="list-style-type: none">1. Are students able to identify the concepts that are pursued in their Education Studies tutorials on a weekly basis?2. Do students have the vocabulary in their home language for concepts identified? If not, how do they express these concepts in their mother tongue?3. Are students able to talk about issues related to their concepts of Education Studies using their mother tongue, Sepedi? If not, what language are they using to talk through these concepts?4. In comparison to their response to first interviews, are students participating more in these sessions where they use their mother tongue?5. Are students able to listen and respect each other's contribution about the content related to the concepts?6. Are students able to help those who experience difficulty in explaining concepts?7. Is the nature of participation of individual students related to the type of schools attended? Public/Private/Former Model C type? (any)8. What other unexpected learning practices emerge in this session?

3.7.3 Participants' reflections

Personal accounts of participants' experiences of some discussion sessions were documented in the pilot study. During the pilot study I randomly requested participants to document their experiences of specific discussions, for example, during discussion one and two. Some sessions proved more interesting than others and thus I realized I had missed valuable data. For example, during the third session students argued extensively but finally reached consensus. I therefore improved on this practice in the main study, as I captured students' reflections of all group sessions. See the reflections' instruction below:

Table 3: Students' Reflection Instruction (Pilot Study)

Students' Reflections on group discussion of Education Studies concepts using Sepedi

Write your reflections of this session where you were discussing Education Studies concept(s), using your home language Sepedi. Document all your thoughts, that is, whatever you noticed, whatever you enjoyed/did not enjoy.

3.8 Data Analysis Strategy

I used a thematic content analysis strategy to analyze the collected data in order to identify, analyze and report patterns within data (Braun & Clarke, 2006). The strategy includes a rigorous reading of all the collected data in order to find themes. Henning et al. (2004, p. 109) refers to this strategy as a “global analysis” of data where “... the main themes are searched for by intensive reading (studying) of the text”.

In this study I rigorously read the transcripts from interviews, transcripts from the one hour group discussions, documents of students' reflective accounts and field notes. I was therefore able to use the themes to find emerging patterns. These were described, analysed and reflected upon in relation to aims, questions of the pilot study, and relevant literature. This analysis method helped me to holistically understand the research study in relation to students' backgrounds as individuals and as part of a community of learners.

McMillan and Schumacher (2006, p. 373) agree that data analysis helps researchers to “try to understand the complex links among various aspects of people's situations, mental processes, beliefs and action”. Therefore this method of analysis was appropriate for both the pilot study and the main study. (Refer to Chapter 3 for pilot study data analysis and observe the kinds of categories that emerged from the data).

3.9 Lessons learnt from the pilot study

I learned good lessons from the pilot study that enabled me to make changes and improvements in the main study:

- 3.9.1 Changed role in main study: I changed my role in the main study from a non-participant observer to a ‘balanced’ participant. This new role gave me a chance to take part when there were disruptions or I sought clarity about concepts discussed.
- 3.9.2 Reflections of all discussions written: Students were requested to keep written reflections of all discussion sessions in the main study. I had randomly requested students to keep reflections of discussions in the pilot study and lost valuable accounts of participants’ reflections.
- 3.9.3 Wrote detailed field notes during observation: The scanty field notes kept during observation of pilot study group discussions changed to comprehensive accounts of observed group discussion sessions in the main study.
- 3.9.4 Omitted second individual interview session in the main study. The second set of individual interviews was discarded during the main study. Data collected during the pilot study showed that there was no remarkable difference between first and second interview data. Based on these reasons, I omitted the second interview session in the main study.
- 3.9.5 Reworded first question of the first individual interviews: During the pilot study, the first question of the first set of individual interviews proved problematic. Most students needed clarity on this item before they could proceed. Therefore I reworded the item for more clarity in the main study:
- Pilot study question: How did you experience learning Education Studies concepts this term?
 - Reworded question in main study: How did you find learning Education Studies concepts this term?
- 3.9.6 Discussed group work ground rules: During the pilot study I did not discuss group work ground rules at the outset of the study. This led to unnecessary problems, like students disrespecting peers’ ideas. I then discussed group work ground rules in collaboration with participants at the beginning of the main study.

3.9.7 Saved main study data on different devices: I lost valuable tape recorded data during the pilot study. I then saved main study data on different devices to avoid future mishaps.

3.9.8 Developed a plan to seek participants for research: In the pilot study I addressed students in their tutorials and missed some lectures. In the main study I addressed the participants during the Education Studies main lectures.

3.10 Conclusion

In this chapter, I discussed the pilot study research methodology. A pilot study was undertaken in order to indicate areas that need improvement in the main study. It covered research context, research participants, research design and approach, data collecting and data analysis methods. I then concluded with lessons learnt from the pilot study and consequent changes effected in the main study design.

CHAPTER 4

RESEARCH METHODOLOGY

MAIN STUDY

4.1 Introduction

In this section I will discuss the research methodology used during the main study. It is evident that most of the sections are similar to the pilot study methodology as discussed in Chapter 3. Differences that came as a result of findings from the pilot study will be highlighted. This will be followed by findings, conclusions and recommendations of the whole research study.

4.2 Research context

The research context discussed in the pilot study methodology section 3.3 in Chapter 3 resembles the context of the main study. The main study was also conducted at the University of the Witwatersrand's School of Education, situated in Johannesburg. (See section 3.3 in Chapter 3 above)

4.3 Participants for main study

4.3.1 Selection of participants

In February 2011 I started to seek volunteers for the main study to be conducted in 2011. Based on lessons learnt when I sought volunteers for the pilot study, I addressed the first year Education group in their main lecture. Twenty students volunteered immediately. I needed ten volunteers for the study, but accepted twenty. Experience had taught me that volunteers could leave the study at any time if they so wished and so I could thus still have sufficient participants.

I used similar criteria to select participants for the main study, as those in the pilot study:

- First year Education students registered at the Wits School of Education,
- Sepedi home language speakers, and
- Those who held a matriculation qualification in Sepedi home language.

Initially ten of the twenty students who volunteered took part in the main study. One student had to leave midway due to other responsibilities. Nine students committed to the end of the study. The 2011 group was eager, committed and showed great interest in the study.

4.3.2 Group work ground rules

The pilot study informed the handling of the first meeting in the main study. I discussed group work ground rules in collaboration with students during our first meeting. We jointly agreed on the following ground rules:

- Students will arrive timeously for enriched discussions.
- Students' cell phones will be switched off during discussions;
- Students will listen attentively to each other's contributions, in order to respond appropriately;
- Students will respect each other's ideas throughout the research study;
- Students will engage in constructive arguments;
- Students will focus their attention on discussions;
- At no stage of the discussion should any student be made to feel alienated from the process in whatever manner by peers.

This practice prevented many problems that were experienced during group discussions in the pilot study, for example, lack of respect for other students' ideas and loss of focus during the discussions. Thus the main study group dynamics were under control.

4.4 Research Design

A case study research design was selected for the main research study. The details of the research design that were discussed in the pilot study methodology Section 3.5 are for the most part similar to that of the main study. The one exception will be discussed below. This was effected as a result of lessons learnt from the pilot study.

I changed my role in the main study from a non-participant observer to a “balanced” participant. This new role gave me a chance to take part when there were disruptions or I sought clarity on concepts discussed. The old role made it impossible for me to interrupt when there were problems of group dynamics or when students digressed from the topic of discussion. This new role gave me opportunities to engage with the participants during observation of group discussions when necessary. My new role enhanced the quality of the data collected.

4.5 Research Approach

I proceeded to select a research approach that I would use to conduct the main study. I selected a qualitative research approach because it was the most suitable for an educational case study design.

The details of a qualitative research approach discussed in the pilot study methodology section applied to the main research study. (See qualitative research approach in Chapter 3, Section 3.6 of the pilot study methodology.)

4.6 Data collection instruments

I used multiple strategies to collect data in the main study. I used interviews, observation of group discussions, students’ written reflections and field notes. Yin (2009, p. 99) asserts that “case study evidence can come from many sources”. I also used a variety of strategies because I wanted to increase the reliability of the pilot study. This method is supported by McMillan and Schumacher (2006, p. 340) who maintain that “the use of multiple strategies enhances the credibility of the study”. I used semi-structured interviews, participant-observation, students’ reflective reports and field notes.

4.6.1 Semi-structured interviews

I used semi-structured interviews, which were also tape recorded, at the beginning and end of the study. This was different from the pilot study where I intended to conduct all three sets of individual interviews. I managed to conduct the first two sets of interviews, but I failed to conduct the third set of individual interviews. Students were not available for these interviews as they were preparing and writing end of year examinations. In the main study I conducted the first and third set of individual interview schedules as shown below.

The question items in the first and second interview schedules resembled those designed in the pilot study. Two changes were effected in this section, informed by results from the pilot study:

- The second set of individual interviews was omitted during the main study. I noticed during the pilot study that there was no remarkable difference between the data collected from the first and second individual interviews.
- The first question of the first individual interviews was reworded. I observed during the pilot study that the first question on the first set of individual interviews proved problematic. Most students needed clarity on this item before they could respond appropriately. This was because the question could be answered in one word. I then reworded the item for clarity in the main study.

See the changes made below:

Initial wording of question in pilot study:

How did you experience learning Education Studies concepts this term?

Rewording of above question in main study:

How did you find learning Education Studies concepts this term?

I conducted the first set of individual interviews from the last of week of February 2011 until the first week of March 2011. The second set of individual interviews was conducted after the eight hours of Sepedi group discussions of Education Studies concepts, in the first and second weeks of May 2011. Students were requested to attend the interview sessions individually, after their university activities. There was a timetable that students filled individually for these sessions. I conducted face to face

interviews with each of the students. All the interviews were conducted on the premises of the Wits School of Education. The Individual Interview Schedules appear in Table 4:

Table 4: Interview Schedules 1-2 (Main Study)

Interview Schedule 1

Before group discussions: Individual interview

1. How did you find the learning of Education Studies concepts this term?
2. How much code-switching did you use in your Education Studies tutorials: always/most of the time/occasionally/none? Supply reasons to support your response.
3. How do you rate your participation in your Education Studies tutorials on a scale of 1-10? (1 being no participation and 10 being great participation) Supply reasons for your response.
4. What major challenges do you face in learning Education Studies concepts?

Interview Schedule 2

End of group discussions: Individual interview

1. How did you find the learning of Education Studies concepts through the medium of Sepedi during the one hour weekly discussion sessions?
2. How did code-switching in your Education Studies tutorials assist/not assist you in your understanding of Education Studies concepts?
3. How influential were the one hour weekly discussions of Education Studies concepts to your participation in Education Studies tutorials? Also rate your participation on a scale of 1-10. (1 being no participation and 10 being great participation).
4. How influential was the use of Sepedi to your participation during the one hour weekly group discussions of Education Studies concepts?
5. Overall how are you managing the major challenge(s) you initially faced when learning Education Studies concepts? Supply reasons for your response.

4.6.2 Observation of group discussion

Observation of tape recorded group discussions was another method used to collect data during the main study as was done in the pilot study. The observation schedule used was similar to that used in the pilot study. One change was effected in the main study:

- I wrote detailed field notes during my observation of group discussion sessions in the main research study. I learnt that scanty field notes were not helpful in providing worthwhile data to respond to research questions.

Observation of group discussions took place from the 15 March 2011 until 15th April 2011. In each group discussion session, I requested students to discuss Education 1 concepts studied each week through their mother tongue, Sepedi. I gave a similar instruction to the group at the beginning of each of the eight discussion sessions conducted in the main study. I also requested students to provide me with their Education 1 prescribed textbook and handouts and I scanned through the concepts during the discussions. During the discussions, I used a list of items below to observe the students' interactions. (See Table 5).

Table 5: Observation Schedule

Observation Schedule: Weekly one hour group discussion sessions
1. Are students able to identify the concepts that are pursued in their Education Studies lectures/tutorials on a weekly basis?
2. Do students have the vocabulary in their home language for concepts identified? If not, how do they express these concepts in their mother tongue?
3. Are students able to talk about issues related to their concepts of Education Studies using their mother tongue, Sepedi? If not, what language are they using to talk through these concepts?
4. In comparison to their response to first interviews, are students participating more in these sessions where they use their mother tongue?
5. Are students able to listen and respect each other's contribution about the content related to the concepts?
6. Are students able to help those who experience difficulty in explaining concepts?
7. Is the nature of participation of individual students related to the type of schools attended? Public/Private/Former Model C type? (any)
8. What other unexpected learning practices emerge in this session?

4.6.3 Participants' reflections

Personal accounts of participants' experiences of all group discussion sessions were documented in the main study. During the pilot study I randomly requested students to document their reflections of particular group discussions. I learnt that I missed valuable information. I then made a change in this regard. During the main study, I requested students at the end of each discussion session to write down their reflections. These documents formed part of data collected during this study. See the reflection instruction used below in (Table 6).

Table 6: Students' Reflections' Instruction

**Students' Reflections on group discussion of Education Studies concepts
using Sepedi**

Write your reflections of this session where you were discussing Education Studies concept(s), using your home language Sepedi. Document all your thoughts, that is, whatever you noticed, whatever you enjoyed/did not enjoy.

4.7 Data Analysis Strategy

I used a thematic content analysis strategy to analyze the collected data in order to identify, analyze and report patterns within data (Braun & Clarke, 2006). The strategy included a rigorous reading of all the collected data in order to find themes. Henning, van Rensburg and Smit (2004, p. 109) refer to this strategy as a "global analysis" of data where "... the main themes are searched for by intensive reading (studying) of the text".

In this study I carefully read the transcripts from interviews, transcripts from the one hour group discussions, documents of students' reflective accounts and field notes. I was therefore able to observe categories that emerged from data. These were described, analyzed and reflected upon in relation to aims, questions of the study and relevant literature. This analysis method helped me to understand the research study holistically in relation to students' background as individuals and as part of a community of learners. McMillan and Schumacher (2006, p. 373) agree that data analysis helps researchers to "try to understand the complex links among various aspects of people's

situations, mental processes, beliefs and action”. Therefore this method of analysis was appropriate for purposes of the study.

4.8 Conclusion

In this section I have discussed the main research study methodology. Most of the details in the various aspects discussed in this section resemble that discussed in Chapter 3 of the pilot study methodology. I discussed the research context, participants, research design, research approach, data collecting and data analyzing method. As discussed above, the pilot study informed the main study in some areas and such changes were effected in the main study. I will analyze, discuss and reflect on data collected in the main study in Chapter 6.

CHAPTER 5

DATA ANALYSIS AND INTERPRETATION: PILOT STUDY

5.1 Introduction

In this section, I analyze transcripts I collected from my observations of the group discussions where five Sepedi students discussed Education Studies concepts using their mother tongue during the pilot study. The pilot study clarified the main study research design. Yin (2009, p. 92) asserts that pilot studies are “more formative” because they assist researchers to “develop relevant lines of questions and provide some conceptual clarification for the research design” (See Chapter 3, Section 3.9). The concepts were discussed in Education Studies lectures and tutorials. Afterwards, weekly one hour Sepedi group discussions were conducted. I also analysed transcripts of the first two sets of individual interviews conducted prior to and midway through the group discussions. There were three sets of individual interviews in the pilot study. The students participated in the first two sets of interviews, however they did not complete the last set due to other demands in their studies.

The following key will be used throughout the transcripts:

R: Researcher	Further clarifications for some translations will be bracketed.
Student names: Students’ contributions will be presented as follows: S1, S2, S3, S4, etc.	Week 1, 2, 3: One hour weekly discussions of Education Studies concepts took place through the medium of Sepedi.
Italics: English translations are in italics.	Some categories emerging in students’ interviews and reflections will be italicised.
Bold words, phrases or sentences: English technical terms used during Sepedi discussions.	Some words/utterances will be underlined and/or meanings bracketed for readers’ clarity.
... Brief pause	

5.2 Description of observations of group discussions

In this section I present data collected during my observation of the first and second hours of weekly group discussions for the pilot study. In both first and second sessions I

asked participants to discuss Education Studies concepts that had been presented in the previous week's lectures by using their mother tongue, Sepedi. I observed four main categories emerging from these discussions. These include:

- 5.2.1 Code-alternation
- 5.2.2 Exploratory talk
- 5.2.3 Culturally oriented discourse habits
- 5.2.4 Morphology issues

5.2.1 Code-alternation

The students mixed Sepedi and English during both the first and second hours of the group discussions observed. Code-alternation is identified by mixing codes between languages during conversations. Code-alternation includes code-switching; code-mixing; code-translation and code-borrowing within one utterance. During the students' interactions, Sepedi emerged as the main language used for communication. This is termed the "matrix language" and English, the "embedded language", plays a lesser role during the discussions (Myers-Scotton, 1993a, p. 3).

The following categories emerged from code-alternation:

- 5.2.1.1 Use of English technical terms for Education Studies concepts
- 5.2.1.2 Use of Sepedi to discuss the Education Studies concepts
- 5.2.1.3 Use of English for ease of communication
- 5.2.1.4 Use of different forms of code-alternation

These aspects will be explored below.

5.2.1.1 Use of English technical terms for Education Studies concepts

Participants in both the first and second hour of the weekly group discussions borrowed English technical terms for Education Studies concepts to introduce and develop discussions. Thus students depended on using English technical terms throughout the study for Education concepts. The following examples were seen in Week 1:

S6: Beke ya mathomo re ithutle ka seo se bitšwago **Sociology**.
*In the first week we've learned about what is referred to as **Sociology**.*

Sociology e bolela ka go ithuta ka batho mo tikologong.
Sociology talks about learning about people in the environment.

Ka gare ga **Sociology** go na le boramahlale bao ba bitšwago di**Sociologists**.
There are scientists in Sociology referred to as Sociologists.

S6 used English technical concepts to introduce the Education concepts “Sociology” and “Sociologists” in the above paragraph. He then continued to explain that “Sociology” concerned itself with people in the environment whilst “Sociologists” were scientists concerned with “Sociology”. English was used to communicate the education theory concepts in the situation.

In Week 2, this pattern emerged again when S2 introduced the concept of “functionalism” and related it to “Sociology” through the medium of English.

S2: Ehh (...) ka beke ya bobedi re be re dira lereo le ba le bitšang gore ke **Functionalism**.
Ehh in the second week we did a concept which they referred to as Functionalism.

Ka lereo le la **Functionalism** ke gore ke lehlogedi leo le tšwago go **Sociology**.
This concept, Functionalism, branches from Sociology.

Students again used English technical terms when they continued to explore these concepts. Examples were observed in both weeks. See the example in Week 1:

S4: Ka bokopana go ile gwa tšweletšwa ka thuto ye ya **Sociology**.
In short, we talked about Sociology

Go ile gwa hlathollwa gore **Sociology** ke tšhomišano gare ga setšhaba le sekolo.
It was discussed that Sociology is about collaboration between a school and society.

So go tlogeng mowe gwa bolelwa ka **Sociology of Education**.
So from there we talked about Sociology of Education.

Yeo yona e bolelago ka tšhomišano ka gare go sekolo le tša thuto.
That which looks at collaboration between the school and general educational matters.

S4 above defined “Sociology” as collaboration between a school and society. Afterwards, he defined “Sociology of Education” as collaboration between a school and general educational matters. In all these instances the English technical terms were used for the education concepts.

A similar pattern was observed in the second week. S5 recapped the previous week's concepts: "Sociology" and "Sociological imagination". She also added "conflict theory" to "functionalism", the concept discussed previously. These are all English technical concepts used for the discussion of education concepts. The students do not attempt to either translate or coin alternative Sepedi concepts as seen in the examples below:

S5: Bekeng ye ya bobedi, ka ge bekeng ya go feta re be re bolela ka **Sociology** le **Sociological imagination**, re bile le **functionalism** le ehh **Conflict theory**.
*This second week, as last week we were discussing about **sociology** and **sociological imagination**, now we had **functionalism** and **conflict theory**.*

Bjale bekeng yee ya bobedi yee re be re lebeletše **functionalism**. Mo go **functionalism** re na le di-**Sociologists** tše pedi tšeo le tšona di thulanago ka dikgopolo, e lego Durkheim yoo elego gore re be re lebeletše yena moo mathomong a beke ya bobedi.
*Now in this second week we're looking at **functionalism**. In **functionalism** we have two theorists whose ideas are in conflict with each other, who is Durkheim whom we were looking at in the beginning of the second week.*

Functionalism (...) Ba re hlaloseditše gore naa **functionalism** ke eng.
***Functionalism** (...) They explained what **functionalism** is.*

Go ya ka nna... go na le yoo a kwešišago gore **functionalism** ke eng pele re tla seka-seka gore naa gabotse yona e tswalana bjang le dikgopolo tša batho mo setšhabeng ke era yona **sociology**?
*In my opinion (...) is there anyone who understands what **functionalism** is before we can analyse it and see how is related to people ideas in society, I mean **Sociology**?*

S1! (...)

S1! (S5 calls on S1 to answer the question posed - the pause is used to wait for S1's response)

S1 then replied to S5's request in the following paragraph, without hesitation.

S1: Ehh (...) ge ke tšea kgopolo ye ya gago ke hlalosa, ke leka go hlalosa **functionalism** ke eng ge re e lebeletše maabane.
*Ehh (...) when I try to explain that idea of yours, trying to explain what **functionalism** is, as we were looking into it yesterday.*

Ehh (...) re rile **functionalism** ge re ka kgona go e ripaganya go ya ka go etša ge ebe re ripagantše **sociology**, **functionalism** yona re ka se e ripaganye go etša **sociology**. Mara re ka e ripa ra re ke 'function', e lego mošomo. ke gore go šoma mmogo.
*Ehh (...) we said if we can divide **functionalism** into parts like we did with **sociology**, we cannot divide **functionalism** like **sociology**. But we can divide it into 'function', meaning work that is we work together.*

Ke yona yeo ba rego ke **functionalism**.
*That is what is referred to as **functionalism**.*

Ene **functionalism** ye e **based on theory**, ke tšona tšela re beng re di bolela re re theory ke dikgopolo tša motho yo mongwe.
*And **functionalism** is **based on theory**, that is that which we were talking about saying theory is someone's ideas.*

So **functionalism** ke mmm (...) mogopolo wo wa Durkheim ge a hlalosa lentšu le **functionalism**, yena o be a bolela ka go lekana ga batho mo setšhabeng.
*So **functionalism** is mmm (...) Durkheim's idea when he explains the word **functionalism**, he was talking about equality of people in society.*

Ene kgopolo ye ya gore go lekana ga batho mo setšhabeng ga se yona, ehh (...) nka thulana le yona.
And his idea that people are equal in society is not true, ehh (...) I can disagree with it.

Ene **functionalism** yona go ya ka yena Durkheim o re ke ka leleme le la Seisemane ba re ke '**positive contribution**' yeo e rago gore ngwana, ke gore motho, o phela a eba le... ke kgopela gore le e tšeeng gona moo ka gore ke ne go fela ke sa kwešiša, nka efa S6?
*And **functionalism** according to Durkheim put in English is '**positive contribution**' which means that a child, that is a person, always has (...). I request that someone take from here because I always don't understand, can I give the turn to S6?*

S6: Ehh ga na moo go seo o se bitšago **functionalism** re bolela ka seo re se bitšago gore ke ditiro-botse tša thuto setšhabeng.
*Ehh on that what you called **functionalism**, we are talking about what we call wonderful deeds of education in society.*

Ke moo re bolelang ka Seisemane re tla reng ke **positive contributions made by education to the maintenance of the social system**.
*In English we can say it's **positive contributions made by education to the maintenance of social system**.*

So be ke no nyaka go tšweleletša taba ye ya gore ke ditiro-botse tšeo di dirwago ke dithuto mo setšhabeng. So ke tla efa o mongwe gore yena a ke a e seka-seke go fetiša moo.
So I just wanted to make it clear about the wonderful deeds that education contribute to the nation so I will give another one a chance to make it more clear.

S1 in the above paragraph replied to S5's request, but continued to use English technical terms for education concepts. Her mother tongue, Sepedi, was the main language used for communicating ideas of the education concept "functionalism".

Discussion and reflection

In all of the above examples English technical terms were used for Education Studies concepts. Students used code-borrowing, where they borrowed one code from English into the main language, Sepedi. S6 and S4 borrowed the Education concept “Sociology” whilst S2 and S1 borrowed the concept “Functionalism”, all in their first utterances. S5’s utterance is most interesting as she borrowed four codes into main language: “Sociology, sociological imagination, functionalism and conflict theory”. I observed that students did not make any effort to find Sepedi technical terms for Education concepts discussed. These concepts formed part of the Education discourse, foreign to the everyday knowledge of the students. In such situations, “borrowing of technical terms which accompanied the transfer of technology from one language community to another” becomes a common phenomenon (Kaplan & Baldauf, 1997, p. 233). This practice continued throughout the study. It appeared there was a lack of Sepedi technical terms for Education concepts. Yafele (2009, p. 85), concurs that “specialist or subject specific terms for academic subjects are not always available in Sepedi”. For the same reason the Language Policy for Higher Education (2002) recognizes that except for English and Afrikaans, other South African languages need to be developed so that they can be used as languages of learning and teaching at institutions of higher learning. The policy reads:

The Ministry acknowledges the current position of English and Afrikaans as the dominant languages of instruction in higher education and believes that in the light of practical and other considerations it will be necessary to work within the confines of the status quo until such time as other South African languages have been developed to a level where they may be used in all higher education functions. (DoE, 2002, p. 10)

This policy recognizes that indigenous languages in South Africa are currently underdeveloped, especially in the case of academic terminology. This status quo includes Sepedi. Thus the Sepedi speaking students in this research used English technical terms for Education Studies concepts.

5.2.1.2 Use of Sepedi to discuss the Education Studies concepts

Students used Sepedi to discuss and try to understand Education Studies concepts. Examples were observed in both the first and second week of group discussions. The

example below, which focuses on S6's lengthy comments, is of great relevance to the study:

S6: Ehh ... nna nka rata go boela kua go **common sense assumption**.

*Ehh ... I'd love to go back to **common sense assumptions**.*

Kua go **common sense assumption** go ya ka bona boramahlale bao ba bitšwago disociologists, ba bolela taba ya gore ngwana ge a etšwa go... nkare ge a ena le... nkare lapa la gabo, ge ele gore o tšwa go lapa leo e leng gore le a itshokolela.

*In **commonsense assumptions**, according to the scientists who are called Sociologists, they highlighted that when a child comes from... I can say when s/he has... I can say if s/he comes from a poor family.*

Bona ba šetše ba lebeletše ka leihlo la gore ngwana owe a ka se tsogile a tšwelela ka go swana le bana bao e leng gore ba gotše ka gare ga lapa la go ikgona.

They already assume that that child will never succeed like other children who come from wealthy families.

Bjalo re lebeletše ehh.... disociologists.

Now we looking at Sociologists.

Ba tšweletša taba ya gore ge ngwana a etšwa metse-magaeng a tla a ithutela go swana le University ya go swana le ya Wits yeo e leng gore e Gauteng, a ka se tsogile a kgona go tšwelela.

They assert that if a child comes from rural areas and to study at a university like Wits in Gauteng, such a child would never succeed.

Ka baka la gore lefelo leo a tšwago go lona le a mo nyenyefatša.

The reason being that the area s/he comes from degrades him.

Bjalo a ke tsebe gore go ka ba le o mongwe yo e leng gore a ka tšweletša taba ye gabotse, gore re kgone go kwešiša ka moka.

I wonder if there is one of you who can explain this aspect so that we can all understand it.

S6 used Sepedi to give an example that showed how “sociologists” who applied “common sense assumptions” to their thinking, would conclude that a rural student studying at Wits University would not succeed due to an impoverished background. This example demonstrates the usual stereotyping that is made about rural people.

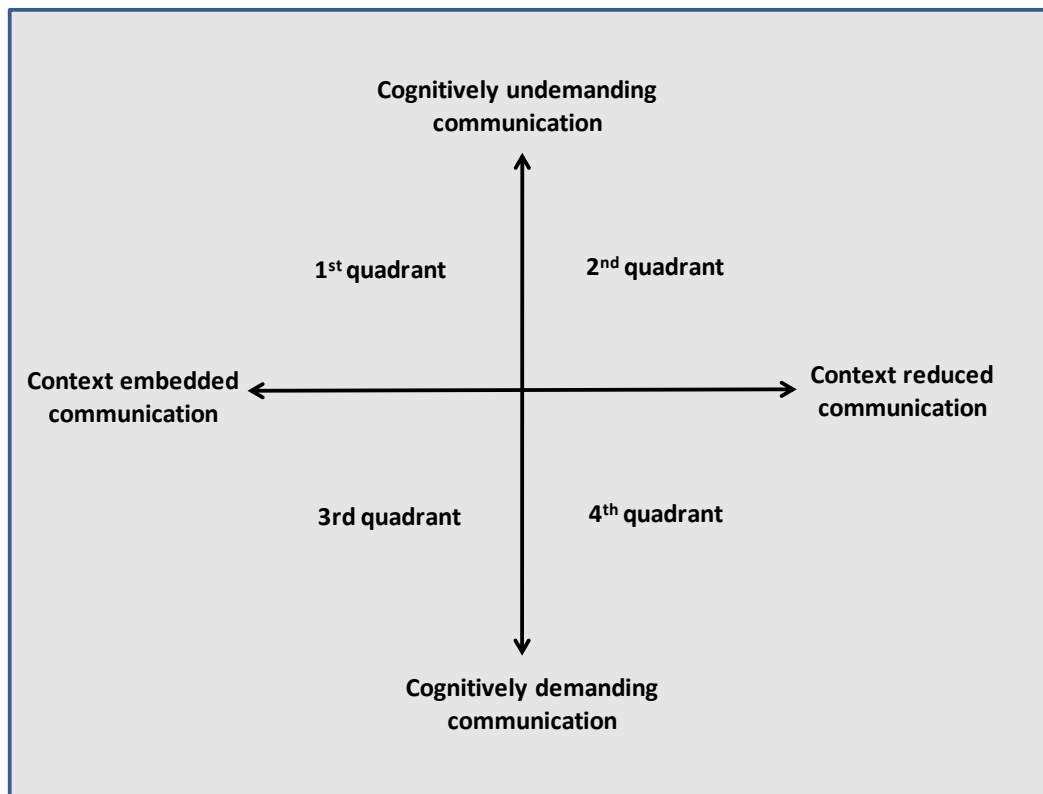
Discussion and reflection

In the above example, S6 presented his lengthy contributions through Sepedi. On the other hand S6 used intrasentential code-mixing in his first utterance, where two codes, Sepedi and English are used within the same sentence. The matrix clause in this utterance is in Sepedi and the embedded clause in English. English technical terms are sought for the education concepts into the main language, Sepedi. S6's contributions, above, also indicate his competence in both languages, as he keeps each language structure intact during his utterances. On the other hand, borrowing of English technical terms continue to emerge.

The latter could also be related to Cummins' theory of basic interpersonal communicative skills and cognitive/academic language proficiency. Cummins (1984b, as cited in Baker, 1993, p. 11) elaborated BICS and CALP to express a distinction in terms of "basic interpersonal communicative skills (BICS) and cognitive/academic language proficiency (CALP)". He maintains that the ability to communicate in daily informal contexts does not necessarily lead to successful communication in formal contexts, in this instance, academic contexts. Cummins (1981b, as cited by Baker, 1993, p. 139), elaborates on BICS and CALP by "adding two dimensions that indicate contextual support available to pupil and cognitive demands required in communication".

In the above example, S6 and peers used their language Sepedi, which had enough verbal and visual cues to support their discussion. This would be regarded as "context embedded communication" (Cummins, 1981b in Baker, 1993, p. 139). On the other hand, S6 explored a cognitively challenging education concept, "common sense assumption", which constituted "cognitively demanding communication" (Cummins, 1981b in Baker, 1993, p. 139). Therefore the students' mother tongue, Sepedi, supported S6's communication with peers to access an otherwise difficult academic concept. See Figure 5 below which was developed to elaborate BICS and CALP by "adding two dimensions that indicate contextual support available to pupil and cognitive demands required in communication" (Baker, 1993, p.139).

Figure 5: Cummins' theory of BICS and CALP: Further Developed.



(Adapted from Cummins, 1981b in Baker, 1993, p. 139)

During lectures and tutorials it is argued that there is no contextual support for students to explore cognitive/academic concepts. These were “context reduced academic situations” (Baker, 1993, p. 11). Education lectures and tutorials can be characterized as “context reduced”. Our group discussions of education concepts, however, presented the students with a “context embedded academic situation”. Their understanding of CALP was facilitated by the students’ BICS. In these instances there was support, particularly via body language and the collaborative nature of these discussions (Argyle, in Baker, 1993, p. 139).

Small group discussions helped the students to enter the “fourth quadrant” as they reached understanding of the education concepts. The fourth quadrant is “cognitively demanding” in terms of academic concepts discussed and “context reduced” in terms of LoLT used (Cummins, 1996, p. 59). The University of the Witwatersrand adopts English as LoLT, which is a second language to research participants. The language of learning and teaching poses a further challenge to these students.

The discussions can also be related to Vygotsky's theory of "Zone of Proximal Development" (ZPD) which is discussed in the following section. Vygotsky (1978, p. 86) distinguishes between the "actual developmental level" which is what students could do by themselves, without assistance, and the "potential developmental level", which is what students would be able to do under guidance by adults or in collaboration with more capable peers in the "ZPD". In this research the "more knowledgeable other" were the students' peers and not adults (Vygotsky, as cited in Bennett & Dunne, 2001, p. 53). What was different from Vygotsky's theory (1978) in this research was that there was no student who could be regarded as the "more knowledgeable other" in the group. All students brought remarkable contributions about the concepts to the discussions. All students could at some time or other be "the more knowledgeable others".

Through this short interaction I realized the importance of creating alternative informal learning contexts for speakers of languages other than English. In this context, students whose LoLT is a language other than their mother tongue, can be given an opportunity to discuss academic concepts through their mother tongue. Such contexts can enhance learning and heighten understanding. In the South African context, such a practice may act as an interim solution in the multilingual nature of the South African classrooms. It could also alleviate complex difficulties brought about by the linguistic challenges faced by most African students in most learning situations, where the LoLT is either English or Afrikaans.

5.2.1.3 Use of English for ease of communication

As described above, English word(s) can occasionally be used for ease of communication (Baker, 1993). In Week 2, S5 invited group members to give their opinion of the education concept "functionalism". S5 used English to pose a question which she could have easily expressed in Sepedi.

S5: Ke be ke kgopela gore ke bolele ka taba ye ya, **what is the function of society?**

Ka gobane ke yona yeo re kilego ra bolela ka yona bekeng ye ya bobedi.

Let us discuss the section on 'what is the function of society?', because that is what we discussed in second week.

S5 could have used the Sepedi translation to replace the English words used:

S5: ... What is the function of society?"

... *Mošomo wa setšhaba ke eng?* (S5 could have used these Sepedi words instead of the English words used above)

Discussion and reflection

It appeared that S5 kept to the English expression because it was the original language used to pose the question in the prescribed text. She seemed not to lack Sepedi vocabulary for her expression. S5 used code-switching, as she alternated between Sepedi and English within the same conversation. In this instance S5 appeared to show respect for LoLT as though a shift to mother tongue would change the original meaning.

S5's practice also indicated the dominance of English as LoLT in most learning contexts in South African education. English is equated with education. She was aware that she was using English instead of Sepedi. I observed how she carried herself in the discussion. This practice can be traced back to students' parents who equated English with education, as a result of their former social and political institutions. Bloch and Alexander (2003, p. 96) see this tendency as "deeply carved into the psyche of people who have bitter memories of an inferior early education being forced on them through the medium of their mother tongue under apartheid".

The respect that an education system can place on a particular language can also perpetuate dominance of that language on marginalized minority communities. Section 21 of the Language Policy for Higher Education emphasizes the "promotion of multilingualism" and the "development, in the medium to long-term, of South African languages as mediums of instruction in higher education, alongside English and Afrikaans" (DoE, 2002, p. 15). The policy acknowledges that English and Afrikaans are languages of learning and teaching. Such sentiments continue to be engrained in communities. African languages have little space in higher learning environments.

5.2.1.4 Use of different forms of code-alternation

Code-alternation patterns emerged during the discussions. The following forms of code-alternation were identified:

- Code-switching (intersentential)
- Code-mixing (intrasentential)
- Code-borrowing
- Code-translation

i) Code-switching was observed in the following speech act:

Intersentential code-switching occurs when speakers utter a whole sentence or more in one language before they switch to another. This is known as intersentential code switching (Myers-Scotton, 1993a, pp. 3-4). An example can be seen below:

S5: Eh (...) Ke be ke tla e bolela ka mokgwa woo yena a e boletšego ka gona. He saw the major function of education as the transmission of societal norms and values. (*he in the English sentence - referred to Durkheim*)
Eh (...) I would express it the way he did. Ehh (...) He saw the major function of education as the transmission of societal norms and values. (he - referred to Durkheim)

S5 first uttered a whole sentence in Sepedi and then switched to English in the second. She advised that students should capture Durkheim's ideas to form a basis for their opinions. The students felt free to mix languages to facilitate understanding during their discussions.

ii) Intrasentential code-mixing:

This form of code-alternation is used to “refer to insertion of single words or short phrases into a sentence in another language” (Makalela, 2005, p. 175). An example can be seen below:

S2: Ehh (...) nna ke le S2 ke be ke re a re thomeng ka go bolela ka **positive contributions of education.**
*Ehh (...) I S2 was suggesting that we begin by discussing the **positive contributions of education.***

S2 switched from Sepedi to English in the same sentence. He inserted a short English phrase into a Sepedi sentence. He suggested to the group that they discuss the positive contributions (of school in society) first. The switch is used as a result of the freedom of speech experienced during group discussions.

iii) Code-borrowing

Where technical terms are not available in one code, such terms are borrowed from another language and inserted in the same sentence. Thus a common cause of borrowing is that the “language doing the borrowing does not have a way of expressing simply some particular concepts which the teaching language has” (Kaplan & Baldauf, 1997, p. 233). Examples were seen above in section 5.2.1.1. The following is an example taken from Week 1:

S6: Beke ya mathomo re ithutile ka seo se bitšwago **Sociology**.
*In the first week we've learned about what is referred to as **Sociology**.*

Sociology e bolela ka go ithuta ka batho mo tikologong.
***Sociology** talks about learning about people in the environment.*

Ka gare ga **Sociology** go na le boramahlale bao ba bitšwago di**Sociologists**.
*There are scientists in **Sociology** referred to as **Sociologists**.*

S6 borrowed the English technical term to refer to the Education concept “Sociology” as there is no Sepedi technical term for the concept. I observed that students were comfortable and relaxed as they used these English technical terms.

iv) Code-translation

Code-translation emerged during the interactions, where single words, short and long phrases, whole sentences were translated from English to Sepedi or vice versa and juxtaposed in the same conversation. According to Malakoff and Hakuta (1998, p. 146), translation “involves replacing an utterance in the source language with an equivalent utterance in the target language ...”. See example below:

S6: Ee, ke nyaka go no bala eh ... **line** e tee goba mothaladi o tee.

*Yes, I want to just read eh...one **line** or one line.*

Ke nyaka gore re ke re kwešiše. E re ... e balega ka tsela ye, ka Seisemane, e re: **the social unit is more important than the individual**. Bjale ge yena Durkheim o bolela taba ya gore eh ... **social unit** e bohlokwa go fetiša motho ka boyena...

*I want us to understand. Let me ... it reads in this way, in English, it reads: **the social unit is more important than the individual**. Now Durkheim himself talks about ... **social unit** is more important than the individual person.*

S6 translated what Durkheim expressed as “social unit”. Thus there is code-translation, from English into Sepedi. I observed that when S6 translated some expressions, he did that to emphasise meaning to deepen understanding of facts surrounding a particular concept. On the other hand, S6 did not change the concept “social unit”.

Discussion and reflection

Students used the above forms of code-alternation to facilitate their understanding of Education concepts. They did not appear to experience restrictions during the communication of ideas when they used their own language. They appeared to be comfortable using English and Sepedi to insert short phrases within the same sentences: to switch between sentences; to translate between the two languages; and/or borrow concepts and transform their structures into main language. It appeared that their main goal was deepening of understanding of the concepts. The group discussions using bilingual practices seemed to impact positively on students’ understandings.

The students used intra-sentential code-mixing where their language, Sepedi, lacked technical terms for Education concepts, and intersentential code-switching was used to emphasise meaning by using a quote in the majority language, English, for clarity.

Historically, bilingualism was discouraged in countries like America, when it was needed by the Spanish-speaking immigrants. It was regarded, for instance, as “unnecessary coddling and spoiling of new immigrants, eroding the strength of the English language – an important symbol of American unity” (Malakoff & Hakuta, 1990, p. 27). On the contrary, research done by Hakuta (1990) concludes that bilingualism shows a number of cognitive and/or intellectual benefits (Hakuta, 1990. p. 49). This conclusion is based on a study that began at McGill University in Montreal, where they examined “children who are roughly equal in their abilities in two languages” (Hakuta, 1990, p. 49). The results of this comparative study, reveal a better performance of bilingual children as compared to monolinguals.

From these international observations of bilingual programmes, it seems that if students are to use their language together with the LoLT in various educational contexts, this practice could enhance the learning and understanding of ideas. Lindholm (1990) concurs that bilingual programmes would promote greater success in education rather than merely learning in English.

Nationally code-switching has also been observed as helpful in the learning of a second language (L2). S5, above, seemed to expect that her peers would not be surprised by her switch to English in the midst of her using mother tongue. Myers-Scotton (1992, as cited in Peires, 1994, p. 15) also observes such code-switching as an “unmarked choice” and is regarded as normal and expected by peers.

5.2.2 Exploratory talk leads to understanding

Exploratory talk is highly recommended as supportive of learning situations, whether it is teacher led or peer led. Mercer describes exploratory talk as talk in which “... partners engage critically but constructively with each other ...” (Mercer, 2000, p. 98). In this kind of talk speakers may, for example “assert, challenge, explain or make request for clarification, followed by responses which provide explanations and justifications” (Mercer, 1995, p. 105). The students in this research used exploratory talk and engaged in some of the practices mentioned by Mercer (1995).

The following categories emerged from exploratory talk that took place:

- 5.2.2.1 Extensions
- 5.2.2.2 Assertions
- 5.2.2.3 Requests
- 5.2.2.4 Challenges
- 5.2.2.5 Explanations
- 5.2.2.6 Use of Questions

5.2.2.1 Extensions

In this section, I analyse, discuss and reflect on the extensions that emerged during students’ discussions of education concepts through their mother tongues. This category emerged when S4 extended another’s idea during the discussions about the nature of Sociology.

S4: Go tlaleletša seo S5 a se bolelago.
To add to what S5 is saying.

Sociology e re thuša gore re kgone go bapetša seo re nago le sona.
Sociology assists us to be able to compare what we have.

Re kgonago go ka se dira re le nnoši.
What we are capable of doing on our own.

Go se bapetša le seo re ka kgonago go se dira mo setšhabeng.
To compare with that which we can do in society.

S4 extended S5's idea that Sociology assisted children to identify talents that are not easily acknowledged in family situations.

Discussion and reflection

The above example showed that S4 listened attentively to S5's discussion of the concept. Afterwards S4 was able to add on important information that he thought S5 omitted. In this way S5 gained extended content knowledge that would benefit deeper understanding of concepts.

The extensions showed how students' contributions related to different levels of thinking. S5's extension of content knowledge discussed can be understood as a "relational level of thinking" (Biggs, 1999, pp. 7-8). According to Biggs' SOLO taxonomy, the relational level of thinking is identified by task words, such as "compare/contrast, explain causes, analyse, apply and relate" (Biggs, 2003, p. 3). S5 related her ideas to peers' contributions on the same aspect – "the benefits of sociology in society".

Extensions of discussed ideas were also made possible by the use of students' home language, Sepedi, which has enough support in terms of cues that are common to the group. Cummins (1996, p. 58) concurs that "context embedded communication" has "meaningful interpersonal and situational cues". Students used their informal language to extend peers' ideas of concepts. On the other hand, students learned challenging education concepts and engaged in "cognitively demanding communication" (Cummins, 1996, p. 59). S5 used Sepedi to extend ideas on the benefits of "sociology" in society. This learning context appeared to exist comfortably in Cummins' B quadrant which is "context embedded and cognitively" demanding (Cummins, 1996, p. 57). (See Cummins' third "B" quadrant" in Figure 5 above, for further clarification.)

5.2.2.2 Assertions

Assertions were also observed during students' exploratory talk. I analyze, discuss and reflect on this below.

S1 emphasized “sociological imagination” and “common sense imagination” as the most important aspects of Sociology. She seemed to think that students were concerned with the education concept “Sociology” and did not consider other concepts associated with Sociology. S1 regarded these concepts as significant in Sociology.

S1: Nna ke sa gatelela mareo ale a mabedi a go re **sociological imagination** le **common sense assumption**.

I still emphasize those two concepts ‘sociological imagination’ and ‘common sense assumption’.

Ke tla dikologa magareng ga ona ka gore ke bona eka a bohlokwa ka mo gare ga thuto ye ya rena ya **Sociology**.

*I will move around those, because I notice as though these are important in our subject area of **Sociology**.*

S1 brought up the two concepts earlier in the discussion as significant concepts. She then realized that her peers did not pay attention to them. She decided to emphasize the two concepts again and insisted that she was going to focus her discussion on these.

Discussion and reflection

S1's assertion indicated another practice that emerged during our group discussions of Education concepts. S1 drew her peers' attention to key concepts so that the students' exploration of Sociology was enriched. The above discussion illustrates how exploratory talk is linked to thought. S1 made a judgment about peers' discussions and concluded that other concepts needed to be included in order to complete the discussion. Thus the assertion led to an extension of ideas that other peers could not have reached. O'Keefe states that communication is linked to thought because as individuals share information their “... combined effort affords a unique progression of ideas, not possible for any single individual” (1995, p. 10).

The above example can also be related to Vygotsky's theory and the role of “social context”, “language” and “mediation” (Vygotsky, 1978, in Donald, Lazarus & Lolwana,

2009, p. 57). During the discussions each student brought with them meanings of concepts and shared them with peers. The talk and thinking occurred in “social interaction” (Vygotsky, 1978, as cited in Donald et al., 2009, p. 57). The students’ mother tongue, Sepedi, facilitated the discussion because it was informal and had enough cues to support the students’ exchange of ideas. Thus Vygotsky maintains that language is “a key factor in the process of cognitive development” (Vygotsky, 1978, as cited in Donald et al., 2009, p. 58). S1 was able to steer the progression of the group’s discussion and comprehension through language.

S1 then assisted the group to make connections between sociology, sociological imagination and common sense assumptions. This is termed “mediation”, where S1 helped his peers to understand the relationship between the three concepts (Vygotsky, 1978, as cited in Donald et al., 2009, p. 58). This help was made possible in Vygotsky’s “critical space”, the “Zone of Proximal Development” where students faced each other in group discussions (Vygotsky, 1978, as cited in Donald et al., 2009, p. 58).

5.2.2.3 Requests

In this section I analyse requests made as students explored concepts. I then discuss and reflect on these requests in the following sections:

S2: Nna ke re ka gore re... ka metsotsonyana yeo e šetšego ga re seka-sekeng tšeo re boletšego ka tšona.

I was saying... with few minutes left let us discuss all that we were talking about.

Ke gore re di seka-seke go ya ka mohlare wola wa mareo, gore ye ke eng, ye ke eng e tsenelana bjang le yekhwi.

That is we discuss them according to the concept tree, so that we discover the meaning of each concept and how one concept, to see what each is and the relationships.

Gore re kgone go hwetša hlaloso ya **Sociology** ge e feleletše ka moka.

*So that we find the holistic meaning of **Sociology**.*

S2 requested the other students to use the remaining minutes of the session to discuss all key concepts related to Sociology as a way to conclude the session. S1 gave a logical response about the Sociology concept tree in the following paragraph. Follow her long synthesis of Sociology below:

S1: Ehh (...) lereo la mathomo ka ge e le **Sociology**.

*Ehh (...) the first concept is **Sociology**.*

la go latela e le **Sociology in Education**;
*followed by **Sociology in Education**;*

a mabedi a go latela e le **common sense assumption** le **sociological imagination**;
*followed by two others, **common sense assumption** and **sociological imagination**;*

gwa tla **structure** le **agency**;
*and then followed by **structure** and **agency**.*

Ge re tswalanya **Sociology** le **Sociology in Education**, **Sociology** ke go ithuta ga batho;

*When we relate **Sociology** and **Sociology in Education**, **Sociology** is the study of people;*

Sociology in Education e bolela ka go ithuta ka batho ka gare ga dithuto, ba lebeletše ka gare ga dithuto;

***Sociology in Education** is the study of people within their Educational studies.*

Sociological imagination le **common sense assumptions** tšona, le tšona di **based** go batho.

***Sociological imagination** and **common sense assumptions** are also **based** on people.*

Mara **common sense assumption** e lebeletše ka mokgwa woo motho a inaganelago ka gona,

*But **common sense assumptions** look to how individuals use their common sense,*

And sociological imagination ke selo seo batho ba se kwanelago.

*And **sociological imagination** is that which people agree on.*

Structure le **agency** le tšona di... ka moka dilo tše di, mareo a, a magareng ga batho, a bolela ka batho.

***Structure** and **agency** on the other hand also ... all these things are about people.*

S1 summarised many key concepts in Sociology: Sociology, Sociology of Education, common sense assumptions, sociological imagination, structure and agency.

Discussion and reflection

S1 synthesized the Sociological ideas for the group. She then showed the relationship between the different components that form Sociology. She built, for her peers, a concept tree of Sociology through logical steps using her mother tongue. English technical terms for Education concepts continued to be used throughout the discussions, yet the summary of concepts associated with Sociology was communicated through

students' informal, everyday language, Sepedi. The students' language (the matrix language) continued to be the main language used in the discussion, and English was used to a lesser degree. English is termed the "embedded language" (Myers-Scotton, 1993a, p. 3).

The synthesis of Sociological concepts demanded S1 to engage in higher order thinking. In order to summarise and relate abstract Sociological concepts, S1 operated at Biggs' "relational" and "metacognitive" levels of thinking (Biggs, 2003, p. 3). Her summary was highly theoretical and thus she also moved into Biggs' "extended abstract level", where she theorized about the concepts (Biggs, 2003, p. 3). She used many Education Studies theoretical concepts in the summary and indicated how each concept related to each other and to societal functions in the order she presented in the excerpt.

5.2.2.4 Challenges

I will analyse, discuss and reflect on students' challenges which emerged when students had misconceptions about certain concepts. Below is an example where S5 challenged S1 in regard to her understanding of the concept "functionalism":

S5: Nna ehh ke be ke sa naganišiša kgopolo yela ya S1.

I was still thinking about S1's idea.

Ke bona o kare S1 o fahlilwe ke nthwe ya **functionalism**, ka ge o gatelela taba ya gore **why functionalism** ba re ke **equality of people**.

*I see as if S1, you are blinded (as though a splinter of dust has gone into her eyes - don't understand) as you emphasise whyn **functionalism**, is argued as **equality of people**.*

Ehh wena S1 **functionalism**, Durkheim o be a leka go hlalosa gore ge bare **equality of people** ge le ka ntumelela gore ke e hlalose ka seisemane gore nna Durkheim gabotse... gore o kgone go e kwešiša.

*Ehh S1, in regards to functionalism - Durkheim was trying to explain that when they say **equality of people** if you can let me explain in English, how I understand Durkheim ... so that you understand him.*

Ehh **functionalism** Durkheim o hlalositše gore ehh yona ke yona **equality of people**. *Ehh Durkheim explained **functionalism** as **equality of people**. Ehh it is equality of people. (Meaning if people can just stand together then the society will survive and function).*

Ke yona **functionalism**.

*That is **functionalism**.*

Ga a re gore ehh **functionalism** e ra gore ke **equality of people**. *Wa nkwešiša?*
He doesn't mean that ehh functionalism means equality of people. Do you understand me?

O ra gore ge feela batho ba ka emelana, ba dumelelana ka mokgwa wola ke hlalositšego.
He just meant if people can be there for each other and agree together in the way I explained.

Ge batho ge feela ba ka no emelana le dikgopolo tša bona, society e tlo tšwelela mo setšhabeng.
If people in can just stand with each other's ideas, society will progress.

That's why a re **functionalism** e tlo hlaga ge feela re ena le **equality of people**.
*That is the reason why he says **functionalism** will be apparent only if there is **equality of people**.*

Ga a re gore **functionalism** e ra gore ke equality of people, wa nkwešiša?
*Does not mean that **functionalism** means **equality of people**, do you understand me?*

Discussion and reflection

In the above interaction S5 challenged S1 concerning her misconception about the meaning of the concept “functionalism”. She addressed S1 directly, as though other members were not there. In the second sentence, underlined above, she told S1 that she misunderstood the concept of functionalism. The use of “fahlilwe” is an idiomatic expression, used as a euphemism. Literally, it means that something got into S1's eye, but in idiomatic terms, it is used to mean that S1 misunderstood the concept. The use of a euphemism immediately created rapport, goodwill and a comfortable learning environment that encouraged S1 to accept the new meaning as given by S5. S1 accepted the challenge in an amicable way, as shown in her final response to S5:

S1: EE bjale gona ke a kwešiša. Ke a leboga.
Yes now I understand. Thank you.

These ways of talking to each other appeared to enhance learning and encouraged students to make mistakes without fear of ridicule. Dennett (2001, p. 106) regards making mistakes as the “secret of success”, because mistakes create opportunities for correction, which in turn facilitate learning and deepen understanding. S1 was able to

thank S5 and accepted her new understanding of the concept. Thus there was a sense of collegiality in the group. This appeared to benefit the understanding of concepts.

5.2.2.5 Explanations

In order to comprehend, explanations are important. I will analyse, discuss and reflect on explanations that emerged during students' discussions of education concepts, using their first language, Sepedi. During the discussions students explained concepts:

S4: Ka bokopana go ile gwa tšweletšwa ka thuto ye ya **Sociology**.

*In short, **Sociology** was introduced.*

Go ile gwa hlathollwa gore **Sociology** ke tšhomišano gare ga setšhaba le sekolo.

*It was explained that **Sociology** is about collaboration between a society and the school.*

So go tlogeng mowe gwa bolelwa ka **Sociology of Education**.

*So from there, **Sociology of Education** was discussed.*

Yeo yona e bolelago ka tšhomišano ka gare go sekolo le tša thuto.

That is about collaboration inside the school with respect to Education – (educational issues)

S4 gave an explanation of Sociology and Sociology of Education. He repeated the explanation after S2 had done so.

Discussion and reflection

S4's repetition of the explanation given by S2 ensured that all group members understood. This practice does not happen easily in large classrooms or lecture theatres where time is monitored according to various activities that should be completed before the end of class. Mercer, Wegerif and Dawer (1999, p. 4) mention some advantages of exploratory talk, which are "to help children to reason together more effectively". In the above discussion S4 gave this explanation as a continued discussion where concepts were explored and showed that the group was reasoning together.

5.2.2.6 Use of Questions

In this section, I analyse, discuss and reflect on questions posed by students as they explored Education concepts in the pilot study. S1 needed clarification about the meaning of two terms – "detectives" and "spies" as used by Sociologists.

S1: Ke na le potšišo, ka ge ba re mmm (...) **Sociologists** ke didetectives' ga ke kwešiše gore naa lereo le '**detectives**' le **spies** di ra go reng?
I have a question, as they say mmm (...) Sociologists are detectives, I don't understand what the meaning of the terms detectives and spies mean?

Ke kgopela gore le ka nkaraba, ke efa lena...
Please respond, I am putting this to you...

This question that S1 asked could assist her in clarifying a grey area in her learning and thus clarify meaning. Usually language that embodies clarity is characteristic of formal education contexts, yet in this research, the language of clarity was observed in an informal learning context. This is termed "the principle of clarity" which is associated with the culture of formal education (Mercer, 1995, p. 106). This group discussion continues to assist students to move gradually from Cummins' B quadrant, "context embedded communication" to D quadrant, the "context reduced communication" and both "cognitively demanding contexts" (Cummins, 1996, pp. 57-59). In both contexts students discussed challenging education concepts. In the "B quadrant" language is supported with many cues, whereas in the "D quadrant" language is formal and thus demanding.

Exploratory talk in these discussions revealed helpful reasoning. Students talked openly about the concepts. Wegerif, Mercer and Dawes, (1999, p. 496) agree that "talk knowledge is made more publicly accountable and reasoning is more visible in the talk". In all the exploratory talk, ranging from extending, asserting, requesting, challenging, to explaining, students made their thoughts about the concepts known. In order for students to reach understanding of the learning material, language usage can range from "speech acts" such as "assert, challenge, explain, request" (Mercer, 1995, p. 105).

I observed that students used their language to engage in exploratory talk practices without restriction, because they did not have to struggle with language. They easily and confidently made requests, challenges, assertions, extensions, explanations during the discussions and used their own language to understand.

5.2.3 Culturally oriented discourse habits

During the discussions students engaged in discourse oriented habits that were informed by their own cultures. I will analyse, discuss and reflect on the culturally oriented discourse habits that emerged during the students' discussions. Below, a typical cultural discourse habit of turn taking can be seen:

S6: Ke tla fa e mong sebaka sa gore le yena a ke a lahlele kgopolo ya gagwe.
I will pass this turn to someone else so that they can express their thought.

During the first group discussion, S6 introduced the concepts he wanted to discuss. Thereafter he invited someone else to continue the discussion – “go lahlela kgopolo” “*to express his thought*”, literal meaning “*throw in an idea*”. This practice is common in Bapedi communities. During a discussion one speaker, at the end of his/her speech, will call upon any member to take a turn or call a name. The example below demonstrates how a specific name is called to take a turn:

Nka e fa S6 ? (rhetoric question)
Can I pass the turn to S6 (called real name of peer)?

Discussion and reflection

I observed that the turn was expressed in the form of a request as though the speaker anticipated resistance from other peers. The other language speakers understood that they need not respond but S6 would know that he should give a response. These are ways to show that all group members are taken seriously and their opinions are highly regarded. It creates a learning environment that encourages both group and individual meaning-making. These rhetorical questions do not need to be answered by the group members nor the person whose name is cited. Culturally it becomes joint knowledge when a person is offered a turn. These examples suggest that learners need to be taught in culturally oriented ways in order to maximize participation and succeed in learning. This naming of a specific person is a common cultural practice in African cultures.

Boykin (1983, 1986, as cited in Parsons, 1997, p. 748) conceptualised nine dimensions that he termed Black Cultural Ethos (BCE), which characterizes the way African Americans perceive, interpret and interact in the world. These dimensions are summarised below:

- spirituality;
 - harmony;
 - movement;
 - communalism;
 - expressive individualism;
 - orality to social perspective of time;
 - verve, preferring intense stimulation and action;
 - expressive individualism, cultivating a distinct personality;
 - social perspective of time, viewing time as a social phenomenon;
- (Boykins, 1983, 1986, as cited in Parsons, 1997, p. 748)

In the example above, “affective” and “communalism” dimensions emerged during the discussions. The former recognizes the importance of “feelings, emphasizing special sensitivity to emotional cues”. Communalism relies on collaboration between people that “esteems social bonds and responsibilities over individuals” (Parsons, 1997, p. 748).

During the research students wanted a group spirit to prevail and they ensured that there would be sensitivity to peers’ feelings. Such actions are committed to the “connectedness that esteems social bonds over individuals” as explained by Parsons (1997, p. 748). S6 used an idiomatic expression to offer peers’ their turn. Therefore S6’s expression considered the feelings of the group and showed he was committed to the group’s harmonious collaboration. Gee also contends that when people speak, they do not only speak grammatically correctly but they also need to simultaneously “say the ‘right’ thing, do the ‘right’ thing, and in saying and doing express the ‘right’ beliefs, values and attitudes” (Gee, 1996, p. 24). The response from peers in the group was positive because S6 had expressed the “right values and beliefs” in his culture.

There are currently rare to nonexistent contexts in South African classrooms where practitioners and students practice cultural habits that meet the multicultural nature of most educational situations. Cultural groups, who know very little about one another, meet in most classrooms. This points to a need to introduce the cultural habits of different groups into the curriculum for both school and teacher training institutions. This could benefit practice, improve relationships and enhance learning.

5.2.4 Morphological transformation

In this section, I analyse, discuss and reflect on Sepedi morphological transformation of borrowed English technical terms. These are used to refer to Education concepts that emerged during the group discussions. Students used the morphology of their home language, Sepedi, on English technical terms and in other areas of their discussions. Some appeared in the English technical terms used for Education Studies concepts, whilst some appeared randomly in the language used during the discussions. S2's contributions in Week 1 illustrate examples where Sepedi morphological traits appeared during the discussion:

S2: Re sa le mola tabeng yela la **Sociological imagination**, lereo le la **Sociological imagination**, re ile ra fiwa dilo tšeo e lego gore **Sociological imagination** e re thuša ka tšona.

*While still on the matter of **Sociological imagination**, the concept **Sociological imagination**, we were given the functions of the concept **Sociological imagination**,*

Re ile ra re e re thuša gore re kgone go nagana (...)

We said it helps us to think (...)

Ke gore re kgone go ba le menagano ya sesociology.

*That is, we should be able to acquire **Sociological** thinking.*

Re kgone go nagana go swana le diSociologists.

*Be able to think like **sociologists**.*

Ene gape re kgone go itloša go tšeo di sa tsebegego ke gore re kgone go (...)

And again be able to detach ourselves that which is unknown, that is, we should be able to (...)

Ka leleme la Seisemane ke “**we have to distance ourselves from the unknown**”

*In English is “**we have to distance ourselves from the unknown**”.*

Re kgone gape le go dira, ke gore re kgone le... ke reng ka Sepedi?

We must again be able to do, that is, we must be able to ... what can I say in Sepedi?

Ka Sepedi ga ke tsebe gore lentšu leo nkare ke eng ka gore ba re e re thuša gape le go “**destabilize the existing power**”

*In Sepedi I don't know what I can say that word is, because they say it assists us again to “**destabilize the existing power**”.*

Here S2 used Sepedi morphology to create different meanings for the English technical terms, borrowed conjunctions and borrowed verbs. This was observed in nouns such as sesociology, disociologists, ene, sokola, kereya, leveling, as S2 mediated the concept “sociological imagination”. Whilst S2 showed instances of morphological

transformation in his discussion, he demonstrated that his home language, Sepedi, was a “cultural tool” that could be used to mediate new content to peers. The process of peer mediation in this instance occurred in a special space, Vygotsky’s “zone of proximal development”, where language played a crucial role (Donald et al., 2009, p. 60).

S2 above also used code-translation, a variable of “code-alternation” (Makalela, 2009, p. 180), to emphasise a thought in both languages, Sepedi and English in order to ensure that all peers understood. See code-translation below.

S2: Ene gape re kgone go itloša go tšeo di sa tsebegego ke gore re kgone go (...)
And again be able to detach ourselves that which is unknown, that is, we should be able to (...)

Ka leleme la Seisemane ke **“we have to distance ourselves from the unknown”**
In English is “we have to distance ourselves from the unknown”

(Figure 6, at the end of the section, shows a list of all Sepedi noun class prefixes)

Discussion and reflection

The following structural traits were observed:

- The noun class 10. Di- prefix, was prefixed to noun “sociologists” to bring about the common structure of the plural form in class 10. Thus “disociologists” to indicate the plural form of the noun “sociologist” in Sepedi.
- The noun class 7. Se- prefix, was prefixed to the noun “sociologist”. Thus sesociologist, to indicate “a sociological kind of thinking”.
- The two morphological changes observed above are a common practice by Sepedi speakers to users to “sotho-ize” English concepts by adding Sepedi noun prefixes, “di” and “se” in “disociologists” and “sesociologist” respectively.
- Borrowed conjunction “Ene” from English conjunction “and”- was formed by following Sepedi common syllable structure which consists of consonant+vowel. Rarely do we have a word that ends with a consonant. Therefore translated “and” acquired common syllable structure in Sepedi to become “ene”. See how the ending is a vowel in the word that in its origin ended in a consonant ‘d’.

Another similar example of language structure taken from Sepedi was observed in Week 2:

S6: Ehh ke kgopela go no go tseba ganong gona moo.
I just wish to disturb just there.

Ehh S1 re sa le mo tabeng ya gore ehh S1 a kwešiše,
Ehh whilst we are still on that matter that must understand

Ehh S5 o bolela taba e ngwe ya bohlokwa gore mo sekolong re fana re ... nka reng? re fana tsebo le ... yeo e leng gore ga se tsebo yeo e leng gore re e kereile ka gae...
Ehh S5 talks about the importance that here at school we give ... what can I say? We give each other knowledge and ... that which is not knowledge that we found at home...

re bontšhana ka tšeo e leng gore re rutilwe moo ka lebaka la gore ka mokana ga rena, disociologists ke batho bao e leng gore ba lwela gore ka moka batho re be nka reng? Nkare re be ... ke tla e bolela ka seisemane, re be leveleng e tee.
We share knowledge taught ... sociologists are those people who fight that all of us, what can I say? I can say ... I will put it in English. We (all people) must be equal.

Re se ke ra re ka baka la gore wo o tšwa lapeng la go sokola, wo o tšwa lapeng le le soo o swanetše gore yena o kereya dilo tše dibotse.
We shouldn't say because you are from a disadvantaged family it means you are like this; then if you are from a rich family, you have to get beautiful things.

Bjalo re ka lebelela taba engwe šee...
Now we can look at something here...

Gore ka malapeng ge le ka lebelela thuto tšeo re di kereileng ka malapeng ka moo ge re etla dithutong ga re di šomiše, ga re di šomiše ehh kudu nka re re kereya tsebo e mpsha mo sekolong.
That in families, if you can look at those lessons we get from families and those from education we don't use them, we don't use them ehh especially I can say I find new knowledge from school.

I will explain the morphology of some borrowed verbs and formation of locatives in the following section:

- The locative suffix *ng-* was used to form a locative noun from noun 'level' > 'level + ng' = 'leveleng', as an equal place where Sociologists would aspire all people to be at.

- The borrowed and Sepedi translated Afrikaans verb, “sukkel”, translated to “sokola” - (suffering/struggling) in Sepedi because the verb acquired the Sepedi commonly used syllable structure of consonant+vowel, with a vowel ending.
- The borrowed and Sepedi translated Afrikaans verb, “kry” (find) translated to “kereya” where S6 explains that what they are taught in families is not used in schools because they “kereya” (find) new knowledge in school. “kry” > “kereya” also acquired the common consonant+vowel syllable structure used in Sepedi.

Myers-Scotton (1993a, p. 3) in her discussion of code-switching, referred to also by Makalela (2009, p. 180) as a form of “code-alternation strategy” asserts that “the matrix language sets the morpho-syntactic frame of sentences showing the code-switching”. The “matrix language” is the most commonly used language during code-switching, and the “lesser language” is the less used language (Myers-Scotton, 1993a, p. 3). Sepedi was the main language used during the research whilst English was used to a lesser extent. Therefore the structure of words in the discussions took the format of the main language used in the discussions, Sepedi. This phenomenon was observed during all the discussions in the study.

Figure 6: Sepedi Noun Class Prefixes

Noun class No.	Noun class Prefix	Singular/Plural	Examples: Singular/Plural
1.	Mo-	Singular	Mosadi (woman)
1(a)	-	Singular	Koko (grandmother)
2.	Ba-	Plural	Basadi (women)
2 (a)	Bo-	Plural	Bokoko (grandmothers)
3.	Mo-	Singular	Motse (village)
4.	Me-	Plural	Metse (villages)
5.	Le-	Singular	Legapu (watermelon)
6.	Ma-	Plural	Magapu (watermelons)
7.	Se-	Singular	Seta (shoe)
8.	Di-	Plural	Dieta (shoes)
9.	N-	Singular	Nku (sheep)
10.	Di-	Plural	Dinku (many sheep)
14.	Bo-	Singular	Borokgo (trousers)
15.	Go	Singular	Go ja (to eat)
16.	Fa-	Fase/down	Fase (on the ground/underneath) 'used as locative noun'
17.	Go-	Godimo/up	Godimo (upwards/above) 'used as locative noun'
18.	Mo-	Morago/back	Morago (back/behind/backwards) 'used as locative noun'

(adapted from Lombard, van Wyk & Mokgokong, 1993, p. 30)

5.3 Description of individual interview transcripts

In this section I will discuss some selected sections of the transcripts of individual interviews I conducted with the students prior and midway through the weekly one hour Sepedi group discussions of education concepts. Interviews further illuminated the data collected during the observation of group discussions and in this way gave valuable insights into the research. On the other hand, using multiple strategies to collect data is favoured in qualitative research, as it did in this pilot study. Such data helps to enhance the research reliability.

During the pilot study I only conducted the first and second interviews, not the final individual interviews. Students refused to participate in these interviews as they were preparing for final examinations. Eleven students participated in the first interview session. I conducted six of the first individual interviews in English, and five students preferred to speak in Sepedi.

I also observed that the responses from the second interviews did not make a remarkable difference to the research as a whole. Based on that observation, I decided to exclude the second individual interviews in the main study (see Table 4). My aim for conducting the interviews was to explore the following:

- Challenges faced by English second language students in learning academic courses at institutions of higher learning. I used Education Studies as an example of a theoretical course.
- Students' own purpose for using code-switching during their learning.
- Whether students' level of participation during Education discussions in tutorials would improve as a result of Sepedi group discussions.

The following patterns emerged from the individual interviews based on the different aims:

- 5.3.1 Challenges associated with English as LoLT
- 5.3.2 Challenges associated with academic writing
- 5.3.3 Code-switching promoted understanding
- 5.3.4 Mother tongue discussions increased participation in the formal education lectures/tutorials

5.3.1 Challenges associated with English as LoLT

Challenges associated with English as LoLT can be found below when students were asked about challenges they experienced when learning the first year Education course:

S4: Okay the learning ... some of the words were difficult for me to interpret so like when we were still in high school we were taught in our home language, so now we are using English as a medium of instruction so that's why it's difficult for us.

S4 experienced difficulty with interpretation of concepts and placed blame on English as the LoLT. I was also surprised to learn that at high school S4's teachers used Sepedi to instruct students even in their content subjects. This may make it even more difficult for students to access complex concepts in higher institutions of learning through the medium of English. Below is an example of a student who experienced challenges as a result of English as LoLT.

S9: Mmm (...) **dilearning theory** ke hweditše e le tše thata ka gore ne di... ne re di... ne re deala le tšona in **English**, mola e le gore **English is not my home language**. *Mmm (...) I found the learning theories difficult, because we dealt with them in English, whereas English is not my mother tongue.*

And nna ne ke fela o ka re if ba ka be ba nthuta tšona ka Sepedi, ne ke tlo ba le understanding yeo e tletšego ka kgona go di kwešiša.

And I used to feel that if they were to teach them (theories) in Sepedi, I would have a full understanding and be able to understand them. (them - theories)

Ka gore ke thomile ke sa kwešiši, e ne ke (...) ke gore ke traya gore nka di kwešiša mara ke bona gore ke a palelwa ka gore language yeo ba rutago ka yona.

Because in the beginning I did not understand (anything) and I was (...) trying to understand but I found that I was failing, because of the language of learning and teaching they use.

Ga ke a e tlwaela, ga se yeo ke e šomišago nakong ye ntši.

I am not used to it (the LoLT), it is not what (language) I use most of the time.

S9 was challenged with learning through the medium of English. It was difficult for her to understand theories in a second language, English. She then suggested that if she was taught through Sepedi she would have full understanding of theories in Education. This indicated to me that the use of English as LoLT is a challenge to some first year African students. Below is an example of where English was cited as a hindrance to learning in the education course.

S2: Ke ba ke dirišwa ke gore gona le nto yeo ke sa e kwešišego, ka lentšu la **English**, leleme la **English**.

I did that because there was something I did not understand, the word (concept) in English, the English language.

Discussion and reflection

Seven out of eleven students who participated in the first individual interview session concurred that English is a barrier to learning in the education course. On the one hand, there are eleven official languages that have similar status in South Africa. Also the National Education Policy (Act 27 of 1996) declared the right “of every student to be instructed in the language of his or her choice where this is reasonably practicable” (National Education Policy, 1996, p. 4). This policy is in agreement with the Bill of Rights (1996) in giving individuals the freedom to make a choice of their preferred LoLT. Nevertheless, there are few opportunities to implement the policies. On the other hand, the African indigenous languages are not well developed to the status of the languages of teaching and learning.

Section 21 of the South African Language Policy for Higher Education (DoE, 2002, p. 15), emphasizes the “development, in the medium to long-term, of South African languages as mediums of instruction in higher education, alongside English and Afrikaans” (DoE, 2002, p. 15). It is a recognition of the linguistic barriers experienced in most educational contexts where either Afrikaans or English is used as language of learning and teaching. This presupposes that tertiary institutions should create opportunities to promote the use of all the official languages. These informal discussions of Education concepts through Sepedi, one of the official languages, are an attempt to be an interim response to the challenges that English second language students face in some higher institutions.

The students’ responses above indicated that their learning is hampered by English, the language of teaching and learning in the university. This is in contravention of Section 15(3) of the Language Policy for Higher Education (DoE, 2002, p. 10) which explains that “language should not act as a barrier to equity of access and success”. The students’ responses indicated that their success will be hindered by the use of English as LoLT.

5.3.2 Challenges associated with academic writing

In this section I analyze, discuss and reflect on challenges associated with academic writing which emerged during students’ discussions.

S7: Dichallenge ... nna bothata bjaka ka **Education ke go ngwala.**
*Challenges My challenge in **Education** is writing.*

Challenge ya ka ke go ngwala. La bona go ngwala go.....

*My **challenge** is writing. You see writing is..... (Heavy breathing to indicate concern and worry about this problem and S7 couldn't continue)*

Challenges associated with academic writing emerged during the above discussion. S7 mentioned her main challenge as being academic writing. She also explained that the difficulty is that Education Studies is different from other first year courses which have a practical component while education is highly theoretical. Therefore to express education concepts in writing is difficult:

S7: Dichallenge ... nna bothata bjaka ka **Education** ke go ngwala, **challenge** ya ka ke go ngwala. La bona go ngwala goo ...

***Challenges ...** my challenge in **Education** is writing. My **challenge** is to write. You see writing is ... (heavy breathing to indicate concern and worry about this problem)*

She then gave examples of other courses which were less challenging than Education Studies, such as “Becoming a Teacher”, a first year course with more focus on practice. “New Literacies”, another first year course, was also cited as more manageable compared to the Education course.

S7: Ke nyaka go tseba gore, ke gore ke nyaka go tseba gore, **that's why ke re ke **challenge****

*I want to know, that means that I want to know, **that's why** I say it is a **challenge**.*

Ke nyaka go ba le tsela yeo e lego gore, ke be le **system yaka ya go ngwala,**
*I want to have a way that, I must have, my own **system** of writing.*

because **Education e fapana le **disubjects** tše tše dingwe re di dirago.**
Because **Education** is different from other **subjects** that we do.

S7: ...Ke gore yona vele ke **theory straight mo go wena mo mahlong a gago..**
*That means actually it is a **straight** away **theory** right in your eyes. (means it is intensely theoretical, there are no sections in the course where theory is minimal)*

Tšela tše dingwe at least boNew Literacy** o ngwala ka, o fela o ngwala ka kgopolonyana ya gago and then ga e go **limiti** so.**
*Those others at least, the likes of **New Literacy**, you write about, you can sometimes add some of your few ideas and then it does not limit you **so** (as Education theory does).*

Le ka **Becoming a Teacher ga se gantši re ngwala di mmm (...) assignment tše ditelele jwatše ka Education.**
*In **Becoming a Teacher** too, it's not often where we write mmm (...) long assignments as in Education.*

Ke **theory and le gona gore o e beye gabotse motho a kgone go e understand, go ngwala ke bothata.**
*It (Education) is **theory** and also for a student to put it into writing so that someone else **understands** the writing, it's a problem.*

Discussion and reflection

In the above discussion, S7 raised vital issues, like students' aspirations to make it possible for them to write assignments in the education course. S7 operated on Biggs' "metacognitive level of thinking" where she reflected on the difficulties she experienced in Education, as compared to other first year courses (Biggs, 2003, p. 3). Also, it appeared that Education Studies was more theoretical than other courses like "New Literacies" and "Becoming a Teacher". S7 raised the issue that writing assignments in the Education theory course was difficult because students rarely met the required standards.

S7: ... Ke **theory** and le gona gore o e beye gabotse motho a kgone go e **understand**, go ngwala ke bothata...
*It is **theory** and also for one to write it in an appropriate manner, so that somebody else must **understand** it (what you have written) to put it in writing it's a problem. (The somebody else here is the tutor who reads the assignment)*

S7 also commented that the expectations in other courses were more manageable than those in education. Students were for instance not expected to write long essays in "Becoming a Teacher", as expected in Education; and in "New Literacies" students had some freedom to write their own ideas and were not limited as much as in the Education course. S7 regarded Education theoretical concepts as intellectually demanding and thus unclear, and this limited thinking about them freely in their writing tasks.

From these discussions, it appeared that the theoretical nature of the kind of pedagogy appropriate for each course needed to be spelled out at the start of each course. This would assist students in understanding the rationale behind learning each course and reasons for differences in the levels of difficulty. Students compared Education and other first year courses and seemed to think there was something unexplained about the level of theory and expectations in the Education course. S7 commented about Education Studies as compared to "Becoming a Teacher" and "New Literacies":

S7: ...Ke gore yona vele ke **theory straight** mo go wena mo mahlong a gago...
*That means actually it is a **straight** away **theory** right in your eyes. (means it is intensely theoretical, there are no sections in the course where theory is minimal)*

In the above examples I observed that the discourse required in Education theory intimidated the students. Each course carries its own Discourse. The theoretical nature of the Education course intimidated the students. S7 needed to understand that Education theory required a special discourse that differed from that in other courses.

5.3.3 Code-switching promotes understanding

In the following section I analyse, discuss and reflect on students' responses during interviews that indicated code-switching as promoting understanding.

Examples can be seen in the following responses during the interviews:

S8: Ehh, ge ke le mo dithutong tšaka, gantši ke na le go tswaka maleme, ka ge ke ithuta le batho ba go fapana-fapana kudu.

Ehh, when I am in my studies, I codeswitch most of the time, as I study with people from many different backgrounds.

Gore ke kgone go ka kwešiša dithuto ka mokgwa woo e lego gore ke tla kwa ke kgotšofala.

So that I must be able to understand my courses in a manner that will make me feel satisfied. (The word "dithuto", as used above, has multiple meanings: subjects, studies, education, lessons. In this context two meanings have been used, i.e. courses and studies)

S8 regarded code-switching as used for purposes of deepening understanding of content in a way that made him feel satisfied. S10 also gave the same response below:

S10: Okay, I code switch when I want clear information of what they were explaining, so that I can get into more details in my own language. So I could translate into English.

S10 code switched also for purposes of understanding, and saw his language as a vehicle that allowed him to reach deeper details of Education content:

I want clear information of what they were explaining so that I can get into more details in my own language... (S10 chose to respond in English during the interview).

Discussion and reflection

In essence, S10 saw the English Education lectures and tutorials as first steps on his route to the learning and understanding of Education concepts. The use of Sepedi was the most important step as it allowed him to reach a greater depth of understanding. Code-switching in this context was marked by mixing Sepedi and English words. The purpose was clearly for understanding the Education concepts.

5.3.4 Mother tongue discussions increased participation in Education lectures/tutorials

The research indicated the impact of the Sepedi discussions for improving students' participation in the Education lectures/tutorials. This pattern emerged when I compared the rating of students' participation on average during Education tutorials before and midway through the pilot study. There were two students whose ratings were lower midway through the research as compared to ratings before the research. The two students gave reasons that pointed to the positive effect Sepedi discussions had on their participation in formal education lectures and tutorials. The other four students gave different reasons.

The table below illustrates students' participation ratings and reasons in Education classes before and midway through the pilot study. The pilot group did not take part in final interviews as they were preparing for examinations.

Students were asked to give individual ratings and reasons for participation in Education classes before and midway through Sepedi discussions of education concepts (*italics used to emphasize emerging categories*):

Table 7: Students' ratings of their participation in Education lectures/tutorials before and after Sepedi group discussions (Pilot Study)

Students	Participation rating in tutorials:		Reasons for rating supplied
	Before research	Midway through research	
S2	6	4	<i>I wasn't participating most of the time cause the language matters. Sometimes you feel that you know the answer but to tell them the answer is not ... is so hard because you don't know to put it in English and if you speak your language not all of them will hear you, then it's a problem</i>
S5	4	7	<i>Well I will say 7 because for now we know each other and the more we have group discussions and knowing each other, that is the more we feel free and be free to participate in class and so to me it's like that.</i>
S4	3	9	<i>In a tutorial situation whenever I don't understand, I tend to ask.</i>
S3	5	8	<i>Eh ... the Education thing (group discussion sessions) that we have it has helped me also because when you come here and do the interviews (discussions) it's more easier when I go to the classroom to apply the same thing.</i>
S7	1-7	8	<i>... My participation, me asking questions or answering. I want to know whether I am on the right track in connection with or in relation with the concepts and my opinion I want to know whether they are valid, want to see whether they are valid or no...</i>
S1	5	2	<i>Because I find that it is not easy to raise my points because of this English, but if we were taught in Sepedi, I would participate for 10 for the scale of 10 'cause is what I understand and then but I don't understand, I just participate for the sake of.</i>

In the above discussions, S3 and S5 showed that involvement in the Sepedi discussions led to improved participation in the Education tutorials. S3 was able to transfer the skill of participation acquired during the Sepedi discussions to participation in formal Education lectures and tutorials.

S3: ...also because when you come here and do the *interviews (discussions)* it's more easier when I go to the classroom to apply the same thing.

On the other hand S1, S2, S4 and S7 had different reasons. S1 and S2 concurred, through the data received during the interviews, that Sepedi lacks the terminology necessary to discuss academic concepts. S7, however, used participation in tutorials or lectures to evaluate her understanding of learning content. S4 participated before he asked questions for clarification of content.

These findings demonstrate the impact the study had on the learning and understanding of content knowledge in the education course.

5.4 Description of Students' Reflections

In this section I analyze, discuss and reflect on some selected sections of students' reflections at the end of the first and second discussion sessions. The data revealed the impact of the research on students' learning and understanding, therefore it gave valuable responses to the research aims and questions.

The following categories emerged from the individual interviews based on the different aims:

- 5.4.1 The discussions promoted understanding of concepts
- 5.4.2 The discussions promoted sharing of ideas
- 5.4.3 The mother tongue promoted understanding
- 5.4.4 The peer discussions promoted freedom
- 5.4.5 The peer discussions promoted enjoyment
- 5.4.6 The discussions promoted thinking

5.4.1 The discussions promoted understanding of concepts

Students' reflections indicated that the discussions of Education Studies concepts in Sepedi promoted their understanding of Education Studies concepts. Six of the seven students who participated in the first individual interview session concurred that the Sepedi discussions enhanced understanding of Education concepts, as shown in the examples below:

S6: The session was so helpful and interesting, because I came to understand what I didn't understand before. Discussing using my own language was so helpful especially having people within the group who are from different tutorial classes and we all came with different minds.

S6 emphasized how the understanding of concepts was acquired through the discussions. This is a further indication of the value of the research. These comments also displayed the impact the research had had on participants.

5.4.2 The discussions promoted sharing of ideas

The discussions also indicated that group work enabled students to share ideas.

S2: During this session, *I learnt that group work enable us to share ideas*. There are certain concepts which I didn't understand in Sociology, so this discussion enables me to bring them up then we can discuss. Now I understand them and I am happy that I helped others. I notice that it is easy to understand certain concepts when we discuss them in our home language.

When peers work together they are able to share ideas. S2 shared this notion in the above discussion. See another example below:

S6: The session was so helpful and interesting, because I came to understand what I didn't understand before. Discussing using my own language was so helpful, especially *having people within the group who are from different tutorial classes and we all came with different minds*.

S6 found group work advantageous because students from “different tutorial classes” shared ideas on concepts.

5.4.3 The mother tongue promoted understanding

Another category that emerged through the students' reflections indicated that the use of mother tongue, Sepedi, promoted understanding of Education concepts.

S2: *I think the session was very helpful to me especially about the concepts I did not understand in Sociology. I found it interesting when we share ideas. It was more understandable when we used our language to discuss.*

S2, in the utterance above, stressed that understanding came as a result of mother tongue learning. S6 in the following example also confirmed the value of mother tongue learning that led to the understanding of Education concepts.

S6: We had a great session, which really opened my understanding and it helped my reasoning capacity. I had so many theoretical concepts without being able to reflect/or recall on what I was taught with the usage of my own words. *Using my own home language in a discussion with people using similar language really shared light in my understanding.*

It is also interesting that S6 commented that his mother tongue assisted him to think. African languages in South African are currently underdeveloped as languages of learning and teaching. They often lack the technical terms used in the different disciplines.

5.4.4 The peer discussions promoted freedom

In the following example, S4 commented that discussions with peers enabled greater freedom:

S4: The session was great because it allows us to share some ideas and hearing different suggestions from each other. What I like the most about the session is *we were enjoying our freedom to express ourselves like how we see things in a different perspective*. The session will mostly be helpful during the tutorials to engage and to participate so that we can have the clear understanding of the content.

What was clear in this utterance is that S4 saw this context as valuable in terms of allowing individual students to “express” themselves from their “different perspectives”. In some formal learning contexts, practitioners have specific expectations with regard to students’ performance. Students lack the freedom present in contexts where peers act as mediators of their own learning.

S3: Today’s session was amazing as it was the first time engaging in a study group. Exchanging ideas in our home language was helpful as I understood more about concepts of Sociology of Education. It was nice to see people with the common language helping each other. It was fun *and it gave us the opportunity to learn freely*.

S3 was also of the view that participating in a group as people who share a similar language made them “learn freely”. When students use a language other than their own, they feel restricted or limited.

5.4.5 The peer discussions promoted enjoyment

Some students experienced the research to be fun. Learning should be associated with some enjoyment:

S4: It has been an experience to be part of the group. The beneficial part of our group discussion is that I have learned from other people's viewpoints about the concept of functionalism. *I have enjoyed being part of the group since I had an opportunity to grasp some useful ideas.* I intend to do better in the next session.

S4 experienced enjoyment during the group discussions as a result of understanding "useful ideas". Students find joy when they reach understanding of their learning. S3 also found it enjoyable to participate in the group.

S3: Today's session was amazing as it was the first time engaging in a study group. Exchanging ideas in our home language was helpful as I understood more about concepts of Sociology of Education. It was nice to see people with the common language helping each other. *It was fun* and it gave us the opportunity to learn freely.

S3 experienced the group discussions as 'fun'. It thus indicated the positive impact the research had on the students in this research.

5.4.6 The discussions promoted thinking

Some of the students gave interesting responses that addressed students' individual concerns in their learning of Education Studies. See the examples below:

S6: We had a great session, which really opened my understanding and *it helped my reasoning capacity. I had so many theoretical concepts without being able to reflect/or recall on what I was taught with the usage of my own words.* Using my own home language in a discussion with people using similar language really shared light in my understanding.

In the above discussion S6 observed that the discussion assisted him to think. He further realized how his mother tongue helped him to reflect and recall concepts using his own voice. S6 concluded also that the use of Sepedi in learning of Education enhanced his understanding.

In this paragraph S6 moved beyond the kind of thinking that the group engaged in, to his individual way of thinking and reflection. This is termed self-regulatory. S4 expressed the benefits of being part of a group as they learned from others.

S4: It has been an experience to be part of the group. *The beneficial part of our group discussion is that I have learned from other people's viewpoints about the concept of functionalism.* I have enjoyed being part of the group since I had an opportunity to grasp some useful ideas. I intend to do better in the next session.

I thought students would be completely involved only with exploration of concepts for understanding. However, S4's comments indicated that students relax when discussing as peers and are able to experience deep satisfaction that make them think deeply about their actions and feelings in the learning process.

Discussion and reflection

I thus believe that this study can facilitate learning in all contexts where the language of learning and teaching is a language other than students' mother tongue. The learning of theoretical concepts appeared to be challenging for students' learning and understanding. However formal learning is concerned with concept learning to develop thinking. Concepts, according to Stuart (2001, p. 121) are "tools for thinking about the world". Yet it is not easy to discuss concepts. This is because they are not easily accessible as they are constructs of the mind. Stuart agrees that concepts are "abstractions that enable us to discuss events and ideas" (2001, p. 121). Language is the vehicle used to communicate these concepts. It is therefore a challenge for second language students to learn the concepts without sufficient language to explore and think about the concepts.

When concepts are taught, good teachers start from the learners' previous knowledge and build these through carefully structured learning activities, drawing on factual knowledge to reach the abstract concept (Stuart, 2001, p. 126). This notion assumes that teachers possess knowledge of learners' previous knowledge. It becomes a problem in South African contexts where historically most teachers and learners come from different educational and cultural backgrounds. Cummins' "B quadrant" was where the thinking took place. It is "context embedded" and "cognitively demanding" (1996, p. 59). Students in this research discussed Education concepts, which are challenging and thus "cognitively demanding", through the students' mother tongue that has enough cues to support communication, regarded as "context embedded". The context of this research thus meets this ideal. Students shared a cultural, linguistic and regional

background as they were all Sepedi first language speakers, from Limpopo Province and also first year Wits University students.

It was also observed during their discussions that they could use culturally oriented habits to promote their learning. For example, students used to call peers by names to take turns or students would select words carefully to challenge another without hurting or demeaning the other. This was due to the culturally oriented habits observed by Boykin (1983, 1986, as cited in Parsons, 1997, p. 748). He cited nine dimensions that he termed Black Cultural Ethos (BCE). They characterize the way African Americans perceive, interpret and interact in the world. These dimensions are summarized below:

- spirituality;
 - harmony;
 - movement;
 - communalism;
 - expressive individualism;
 - orality to social perspective of time. Verve, preferring intense stimulation and action;
 - expressive individualism, cultivating a distinct personality;
 - social perspective of time, viewing time as a social phenomenon;
- (Boykin, 1983, 1986, as cited in Parsons, 1997, p. 748).

I observed that students employed “affective” and “communalism” dimensions during the discussions. The former recognizes the importance of “feelings, emphasizing special sensitivity to emotional cues”. Communalism relies on collaboration between people that “esteems social bonds and responsibilities over individual” (Boykin, 1983, 1986, as cited in Parsons, 1997, p. 748). These dimensions emerged during turn taking in the discussions.

5.5 Conclusion

Valuable lessons have been learnt from findings in this pilot study. The impact of the case study has been revealed in students’ reflections and interviews. Practices that emerged when first language students of Sepedi, discussed Education Studies included:

- Code-alternation with its variables: code-switching, intrasentential code-mixing, code-borrowing and code-translation.
- Exploratory talk
- Culturally oriented discourse habits (for example, orality, communalism)
- Morphological structure of the main language used on lesser used language.

Challenges facing students in the learning of Education Studies has emerged from interviews and observed group discussions. Students' reflections indicated the benefits of such a study for the learning and understanding of academic concepts. Some of the problems encountered during the pilot study should be avoided in the main study.

CHAPTER 6

DATA ANALYSIS AND INTERPRETATION: MAIN STUDY

6.1 Introduction

In this section I analyse data collected during the main research study. The data was collected after the pilot study. (See Chapter 5 pilot study data analysis and interpretation). The pilot study results informed some of the main study questions and procedures. The data included transcripts collected from observations of group discussions where Sepedi students discussed Education Studies concepts using mother tongue: transcripts of two sets of individual interviews, students' reflections on Sepedi group discussions, and field notes documented during the research. The concepts were initially discussed in Education Studies lectures and tutorials. Afterwards, one hour weekly Sepedi group discussions were conducted.

In the pilot study I designed three sets of individual interviews. These were intended to be conducted before the Sepedi group discussions, midway through and at the end of the pilot study. I was able to conduct only the first two sets of interviews. Students did not participate in the third interview session because they were writing examinations.

In the main study the second set of individual interviews conducted during the pilot study was omitted because data collected during the pilot study showed that there was no remarkable difference between the first and second interview data. Therefore transcripts of the first and third sets of interviews will be analysed in the main study.

The following key used in the data analysis of the pilot study will be used throughout the transcripts in the main study:

Student names: Students' contributions will be presented as follows: S1, S2, S3, S4, etc.	Further clarifications for some translations will be bracketed.
Bold words, phrases or sentences: English technical terms used during Sepedi discussions.	Week 1, 2, 3: One hour weekly discussions of Education Studies concepts took place through the medium of Sepedi.
Italics: English translations are in italics.	Italics also used for categories emerging in students' reflections
... Brief pause	

6.2 Transcripts of observation of group discussions

In this section I will present the data collected during my observation of eight hours of weekly group discussions during the main study. In all eight group discussions I requested participants to discuss Education Studies concepts that had been presented in the previous week's lectures, using their mother tongue, Sepedi.

I identified six categories emerging from the Sepedi discussion transcripts. The first four categories were similar to what I observed during the pilot study (See Chapter 5, 5.2). The following patterns were observed in the main study. These include:

- 6.2.1 Code-alternation
- 6.2.2 Exploratory talk
- 6.2.3 Culturally oriented discourse habits
- 6.2.4 Morphology transformation
- 6.2.5 Peer support - Latecomer context

6.2.1 Code-alternation

The students mixed Sepedi and English during both the first and second hours of the group discussions observed. Code-alternation is identified by mixing codes between languages during conversations. Code-alternation includes code-switching; code-mixing; code-translation and code-borrowing within one utterance. During the students' interactions, Sepedi emerged as the main language used for communication. This is termed the "matrix language" and English, the "embedded language", plays a lesser role during the discussions (Myers-Scotton, 1993a, p. 3).

The following themes and categories emerged from the code-alternation:

- 6.2.1.1 Use of English technical terms for Education Studies concepts
- 6.2.1.2 Use of Sepedi to explore Education Studies concepts
- 6.2.1.3 Use of English words for ease of communication
- 6.2.1.4 Use of different types of code-alternation

These aspects will be analysed, discussed and reflected on below.

6.2.1.1 Use of English technical terms for Education Studies concepts

In this section I analyse and reflect on students' lexical borrowing of English technical terms for Education concepts during their discussions. Participants in all eight hours of both the first and second hour of weekly group discussions, used English technical terms for Education Studies concepts in order to introduce and continue discussions. Below is an example of S1's extensive comment:

S1: Okay **diconcepts** tšeo re tlogo di lebelela lehono, re tlo lebelela(...) **behaviourism**.
*Okay those **concepts** that we shall study today, we will look at (...) **behaviourism**.*

E tšwile ka magato a ..a... ke a makae? Ke a5.
It is divided into these sections... how many? They are 5.

Moo e leng gore re na le **positive reinforcement; negative reinforcement; punishment**.
*Where we find **positive reinforcement; negative reinforcement; punishment**.*

Re nale **Time-out** le **Extinction**.
*We have **time out** and **extinction**.*

Ka ge o boletše gore re... **behaviourism** ke ka mokgwa woo e leng gore motho o lebelelwa ka mokgwa woo a itshwarago ka gona, ra bona gore motho yoo o responda jwang.
*As you said that we ... **Behaviourism** is how a person is being regarded as a result of behaviour, and we then see how that person behaves (responds).*

Wa bona so, a re lebelela re thoma ka **positive reinforcement**, which **positive reinforcement** ke go tiiša ehh mekgwa ya motho ka tšeo a di dirago mmmmh.
*So you see, when we look, we begin with **positive reinforcement**, and **positive reinforcement** is to entrench a person's character as a result of what he does mmmmh.*

In the above discussion, S1 used English technical concepts to summarize the Education Studies concepts that students needed to discuss during Week 3. These were: positive reinforcement, negative reinforcement, punishment, time out and extinction. Students did not make an effort to find Sepedi terms for the Education concepts. This practice was also observed during the pilot study. (See Chapter 5, 5.2.1.1)

As the students' discussion developed in Week 3, students continued to use English technical terms for Education concepts. S3 corrected S6 about the meaning of punishment as a concept in behaviourism.

S3: Mmmh (yes).
Yes.

Mara go ya ka **behaviourism**, e seng go ya ka rena, go ya ka **theory ya behaviourism, punishment** e no ba go tloša mekgwa e mebe ka go punisha motho.

*But, according to **behaviourism**, not according to us, according to the **theory of behaviourism, punishment** is just to remove bad behaviour by means of punishing an individual.*

Like ka mokgwa woo be ba re dira sekolong, ba re betha

*Just **like** the way they used to do in school, giving us a hiding.*

S3 cautioned S6 not to describe “punishment” out of context. He needed to contextualize it within “behaviourism”. Thus “... *according to behaviourism, not according to us*”. She conveyed this idea as students continued discussing Education concepts in Week 3. S6 concluded that punishment in behaviourism could have negative consequences – it could encourage learner absenteeism. During the discussion, I observed that English technical terms for Education concepts continued to be borrowed and used. On the other hand, this kind of borrowing is known as “transference strategy” and entailed development of new terminology. According to Ramani, Kekana, Modiba and Joseph (2007, p. 213), “transference strategy refers to borrowing a source language item (English) into the target language without changing it...”. For example, S1 in the above discussion, borrowed English technical terms for Education concepts “behaviourism; positive and negative reinforcement; timeout and extinction” without changing them. In this manner, these items become “loan items in the target language” (Ramani et al., 2007, p. 213).

In Week 5 Vygotsky’s ideas were explored:

S5: Aowa Vygotsy re tlo ba re lebelela gore ngwana o khumana thuto bjang,
No.... Vygotsky, we will be looking at how a child learns.

Re tlo ba re lebeletše ehh setšo **sahistory**.
*We will be looking at the origins of **history**.*

Re tlo ba re lebelela **inter-psychology intra (...) inter-psychology le intra-psychology, mediation and zone of the proximal development**
*We will be looking at **inter-psychology intra (...) inter-psychology and intra-psychology, mediation and zone of the proximal development**.*

English technical terms continued to be used in the above comments made by S5 during the Sepedi group discussion of Vygotsky’s theory of “cognitive development through social interaction” in Week 5 (Vygotsky, 1978, as cited in Donald, Lazarus and Lolwana, 2009, p. 57). These were: history, inter-psychology, intra-psychology, mediation and zone of proximal development. Also observed during Week 5, was that

students continued to use English technical terms for Education concepts as discussions developed further:

S5: Nna re dirile **inter, inter psychology le intra le mediation le zone of proximal development.**

We did inter, inter psychology and intra and mediation and zone of proximal development.

In the above utterance, S5 cited the three concepts studied in her tutorial as, “inter psychology”, “mediation” and “zone of proximal development”. Prior to S5’s comment, S6 had listed the following concepts: “social context” and “language”, “intellectual social skills”, “egocentric speech” and “inner speech”. S5 remarked that such concepts had not yet been explored in his tutorial.

The consistency maintained in the use of English technical terms for Education concepts in the above discussions, illustrates the absence of these terms in African languages. Some students also reiterated the lack of technical terms in Sepedi for Education concepts. According to S4: “... One of the reasons is that some of the things I cannot translate into Sepedi language so I have to mix it with English”.

Discussion and reflection

The above responses confirm the absence of Sepedi technical terms for disciplinary concepts. It was clear during the discussions that participants depended on English technical terms because African indigenous languages have not been previously used to explore technical concepts at this level. Therefore S4’s mother tongue, Sepedi, had not been used to discuss these terms at this level. On the other hand, mother tongue could be creatively used as a resource in learning contexts. English and Afrikaans have been used as the primary medium of instruction in most schools and institutions of higher learning. This is affirmed in Section 15.1 of the Language Policy for Higher Education (2002) where the Ministry asserts:

The Ministry acknowledges the current position of English and Afrikaans as the dominant languages of instruction in higher education... it will be necessary to work within the confines of the status quo until such time as other South African languages have been developed to a level where they may be used in all higher education functions. (DoE, 2002, p. 10)

Though there are plans to develop these African indigenous languages, there is however lack of political will to implement them. Consequently many English and/or Afrikaans second language students face linguistic challenges in most South African institutions of higher learning. In the absence of political will to alleviate such linguistic challenges, research studies such as this one could serve as interim strategies to ameliorate linguistic problems.

6.2.1.2 Use of Sepedi to explore Education Studies concepts

In this section I analyse and reflect on students' use of their own language, Sepedi, in order to explore Education concepts in the main study. The practice also emerged during observation of the group discussions in the pilot study. The examples below were the contributions of S10 during Week 2, as observed in the main study. S10 used Sepedi to discuss the concept "microsystem".

S10: Ok (...) Le nna ke a kwešiša ka mokgo lena kamoka le e kwešišago ka gona.
Ok (...) I also have the same understanding as all of you have.

Gore **microsystem** gabotsebotse ke **foundation**.
*That **microsystem** is actually the **foundation**.*

Ke yona ye **disystem** tše dingwe tše di ithekgilego ka yona.
*It is what other **systems** are based on.*

Because e thoma ka mo gae, go thoma ka batswadi, boresi boabuti then le dichomi tša gago.
***Because** all begins from home, from parents, sisters, brothers and your friends.*

Go ra gore nna mo go nna ke bona **microsystem** ke **foundation** ya tše ka moka. S5!
*(For me therefore, I take **microsystem** to be the **foundation** of everything. S5! (...)
(calling on student 5 to take a turn)*

S10 described her actual articulation of the meaning of the concept "microsystem", through her mother tongue, Sepedi. Her choice of language was everyday informal language rather than formal language. For example relatives were referred to as "... boresi (sisters), boabuti (brothers), ... dichomi (friends)" instead of the formal representations of "... bagolo baka (my sisters), dikgaetšedi (brothers), bagwera (friends)" in formal contexts. S10, like all student participants in this research, is Sepedi speaking, and holds a matriculation qualification in Sepedi. S10 could have chosen to

use formal representations of the words in Sepedi, but instead chose informal alternatives. The use of informal language indicates the comfort and freedom that students experienced when allowed to use mother tongue for learning. S10 appeared free and comfortable. This context reduced the formality associated with formal classrooms and the presence of lecturing staff. In this context all students used informal language to explore otherwise difficult academic concepts and thus were able to reach greater understanding. The discussions above reveal the kind of talk that facilitates mutual understanding as S10 used language familiar to all.

In another example S5 gave her own contribution about her understanding of Piaget's concrete stage:

S5: Go ya ka Piaget, ehh (...) **concrete stage** ke **stage** se elego gore ke ngwana go thoma pelegong ya gagwe go fihlela go lekana ka mengwaga ye mebedi.
*According to Piaget, ehh (...) the **concrete stage** is a child's **stage** that stretches from birth to two years of age.*

Yena mo theoring ye o lebetše gore ngwana o ithuta ka go dira dilo.
He looks at how a child learns to do things in this theory.

Ka go swara dilo, ka gore yena ga a kgone go bolela bjalong yena o ithuta ka go experienca.
By touch, because the child cannot speak, s/he then learns through experience.

Ngwana ge e sa le yo monnyane gore a kgone go ithuta, o ithuta ka go dira dilo ... go dira dilo **into practice**.
*In order for a child to learn, s/he learns by doing things ... to put things **into practice**.*

Go swana le ... mohlala: ngwana a ka swara setofo sa go fiša, o a ithuta gore setofo se a fiša.
Like ... for an example: a child can touch a hot stove, then will learn that the stove is hot.

Ka baka la gore o ile a kgona go tšea letsogo la gagwe a iša kua, mara ka baka la gore se ile sa fiša, a tsamaiša letsogo la gagwe.
Because s/he placed her/his hand on the stove, and it was hot, s/he then withdrew her/his hand from the stove.

Bjale ngwana o ithuta ka go dira di**actions**, ka ge ba sa kgone go bolela.
*So a child learns through **actions** because s/he cannot speak yet.*

Ke tla fa yo mongwe sebaka a hlaloša pele go ya ka mokgwa a nyakang.
I will pass this turn to one of you, to explain according to his/her perspective.

S5 applied Piaget's concept of the "sensorimotor stage" to a real life situation through her mother tongue, Sepedi (Piaget, as cited in Donald et al., 2009, p. 51). She chose to discuss the concept of "concrete stage". The concept is used when describing actions of children at that stage but does not denote formal naming of the stage known as "sensorimotor". She correctly described and gave examples to illustrate children's actions that occur during the "sensorimotor stage".

Discussion and reflection

The informality experienced in the discussion is a further indication that when students learn informally they rid themselves of formalities and concentrate on understanding. S5 used an example related to a peer's previous knowledge to illustrate the concept – a child who placed his/her hand on a hot stove and experienced the heat would then always be aware that stoves are hot. It appeared that the group found the example facilitated their understanding. The experience in this discussion indicates how peers, in this instance, S5, mediate knowledge by using talk as a vehicle to facilitate and deepen understanding.

The student's discussion could be associated with the development of higher order thinking. S5's thinking about Piaget's stage referred to above could be linked to Biggs' taxonomy of Structure of Observed Learning Outcomes (SOLO taxonomy) (Chamberlain, Button, Dison, Granville and Delmont, 2004, p. 2). There are five levels in Biggs' SOLO taxonomy, ranging from "prestructural, unistructural, multistructural, relational to the metacognitive level" (Biggs, 2003, p. 3). The levels range from the lower order to the higher order level of thinking. There are also verbs that identify each level of understanding in the taxonomy. Though Biggs (1999) intended the taxonomy to be used to describe the learner's depth in achievement of the outcomes of written tasks, I thought the taxonomy could be applied to describe the depth of thinking achieved by students during the discussions.

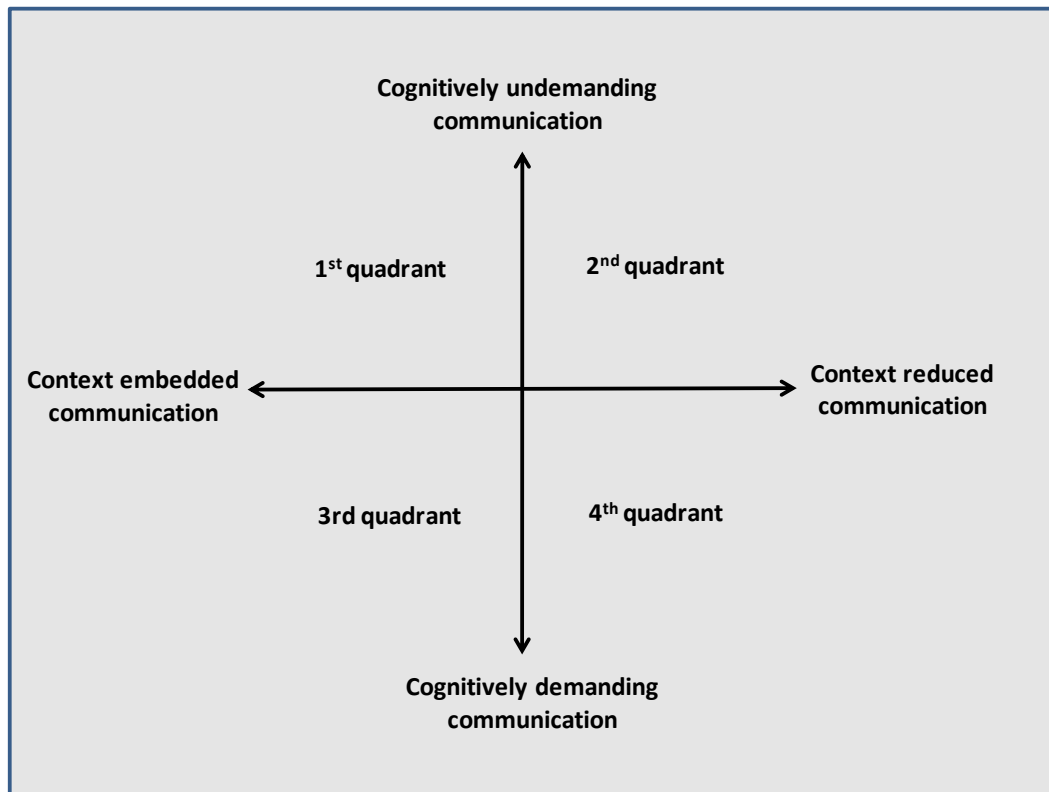
In the example S5, operated at Biggs' (2003, p. 3) "relational level" in her thinking. At the relational level Biggs identifies task words that require students to "apply, compare/contrast, explain causes, analyse, or relate" what they learnt (Biggs, 2003, p. 3). S5 related the learning of Piaget's "sensorimotor stage" to her previous experience, where a child placed her/his hand on a hot stove and learnt that the stove was hot.

The above example, where prior knowledge is vital to students' learning, can also be linked to Cummins' framework which explains how students are able to manage in learning and "social" situations where the language and academic work is challenging (Cummins, 1996, p. 57). Cummins' "B quadrant" is where "context embedded communication" assists learners to access academic content as "language is supported by a wide range of meaningful interpersonal and situational cues" (1996, p. 58).

I now analyse the "context embedded" nature of the above discussions where students use their mother tongue, Sepedi to discuss Education concepts. I use Cummins' basic interpersonal communicative skills (BICS) and cognitive/academic language proficiency (CALP) (Cummins, as cited in Baker, 1993). The students use BICS, their mother tongue, to discuss CALP, the Education concepts. Thus a distinction will be made between conversational BICS and academic communication CALP (Cummins, 1996).

According to Cummins (1996) the framework is based on four quadrants - A to D. Communication in these quadrants can differ in terms of availability or reduced interpersonal and contextual cues, referred to as "contextual embedded" and "context-reduced" dimensions respectively (Cummins, 1996, p. 58). On the other hand cognitive involvement in tasks performed in quadrants can either be challenging or unchallenging, referred to as "cognitively demanding" and "cognitively undemanding" respectively (Cummins, 1996, p. 59). In this research, Quadrant B is a relevant context for the group discussions. Quadrant B is "context embedded" because communication is supported by interpersonal and contextual cues in their mother tongue, Sepedi; and "cognitively demanding" because there is challenge in terms of the Education theoretical concepts discussed (Cummins, 1996, pp. 58-59). (Refer to Figure 7 below for Cummins' theory of BICS and CALP)

Figure 7: Cummins' theory of BICS and CALP: Further Developed



(Adapted from Cummins, 1981b in Baker, 1993, p. 139)

Cummins (1984b, as cited in Baker, 1993, p. 11) maintains that the ability to communicate in daily informal contexts does not necessarily lead to successful communication in formal and/or academic contexts. In academic contexts, second language students are linguistically challenged because the language of learning and teaching is unfamiliar. They lack sufficient support to enhance students' communication. On the other hand, if students are given opportunities to use their mother tongue to learn "cognitively demanding" concepts, in a context embedded situation their understanding can be enhanced (Cummins, 1996, p. 59). Their mother tongue, Sepedi, affords them everyday language that has sufficient cues. On the other hand, students discuss academic Education concepts which require students to engage intellectually.

The B quadrant provides assistance in terms of "actions with eyes and hands, instant feedback, cues, and clues to support verbal language" (Baker, 1993, p. 11). This is

termed “context embedded communication” (Baker, 1993, p. 139). However, cognitively challenging material is discussed in this quadrant, Cummins’ CALP (Cummins, 1984b, as cited in Baker, 1993, p. 11). This is termed “cognitively demanding”.

A further example shows how S10 employed the notion of “microsystem” using informal language to illustrate how the concept plays itself out in family contexts. S1 also explored Piaget’s “sensorimotor stage” in a child’s development and applied it to her previous experiences (Piaget, 1953, as cited in Donald et al., 2009, p. 53). This constituted “context embedded communication”. Both of these students however explored “cognitively demanding” education concepts such as “microsystem” and “sensorimotor stage” which could be regarded as “cognitively demanding communication” (Cummins, 1995, p. 59). Therefore the students’ mother tongue assisted S1, S10 and their peers to access what would otherwise be difficult academic concepts.

The data suggests that academic institutions could create comfortable informal contexts (as illustrated in this research) to assist second language students’ learning and understanding of disciplinary knowledge. Students could be encouraged to use their mother tongue as a resource in learning and understanding different university courses. Students also felt comfortable being free to take charge of their learning. I observed in the study that students were free and comfortable to express themselves in my presence, as I was not their teacher in any of their courses. Students expressed freedom and enjoyment in their participation. I suggest that other courses may find research strategy useful should English second language students prove to be challenged in their understanding of course concepts. In their reflections on Sepedi discussions students indicated that the research had value and should be extended to other courses. I also observed that using simple everyday language can enhance the learning and understanding of rather difficult theoretical concepts if deliberately conducted. This is evident in students’ explanations of challenging concepts through Sepedi, in this study. (See Section 6.2.1.2 where students’ used Sepedi to explore Education Studies concepts). I observed a difference in the quality of discussions between pilot participants and the main study participants. The pilot group did not commit to discussions and as such the quality and benefits of these discussions were less than the main study group who strongly committed to research discussions. As a result, the pilot

study group dropped out of the research before completion, while the main study group participated to the end.

6.2.1.3 Use of English words for ease of communication

In this section I analyse the use of English everyday vocabulary that emerged during Sepedi discussions of Education concepts in the main study. I note that English word(s) were occasionally used for “ease of communication” during the Sepedi group discussion (Baker, 1993). This practice also emerged during the pilot study, as can be seen from S1’s contribution during Week 2. S1 was elaborating on the consequences of family problems on student’s learning as part of the discussion of Bronfenbrenner’s concept of “exosystem” (1977, as cited in Donald, Lazarus & Lolwana, 2009, p. 42):

S1: And then example ye nngwe ke ya gore maybe papago o a šoma and then kua mošomoni, maybe ga ba mofe tšhelete ye enough, ba mo ropa (rob).
And then another example, maybe your father is not remunerated sufficiently at work. They rob him.

and then ge a boa ka hae ke gore o thoma go.. o o nwela le mabjala. Ge o fihla kua o a ho betha, o go treata badly in the way ya hore wena...in a way ya gore ha o tsebe selo.
And then when he comes home he drinks. Then he hits you and treats you badly but you don't know anything (about his experiences at work).

O kile wa bona o sa tsebe selo?.Mara dilo di boela mo wena.
Have you ever seen that when you don't know a thing? But things turn back to you.

And then e bohloko kudu ka bala la hore wena ha o involved, mara still o involved in...Ke hore ha o involved ka hare ha like diaction tšona tšela,...
That is very painful because you are not involved (in your father's work problems) but you become in a way involved.

Some students: mmmm...
Yes (in agreement with what is said)

Ka har'a situation ya mmaho, mara o ka hare ha situation yela ka baka la hore di boa tša turnela mo wena
In your mother's situation, you are in that situation because things turned back onto you.

And then ke ka mokgo ho lego gore go bohloko ka gona.
And then that is how it is so painful.

Ke yona elego gore e kweša bohloko kudu ka hore ha o involved, mara in a way o involved.
That is what makes it more painful because you are involved, but in a way not involved.

And then o swanetše ...you have to bear with a situation le he ele hore a se ya hao. O ka tšwela pele S10. (calls on S10 to continue)
And then you have. You have to bear with a situation even if it's not yours. S10 you can continue (the discussion).

Here we can see how S1 continued her illustrations on Bronfenbrenner's concept of "exosystem" (1977, as cited in Donald, 2009, p. 42). Prior to this contribution S1 showed how outside forces may affect the progress of a learner in school. She gave two illustrations. The first involved a father who becomes a drunkard as a result of impending retrenchments. The second involved a mother who is a school teacher and hated by colleagues causes her stress. S1 concluded that in such situations, both parents would take their problems home and hamper their child's school progress. Thus S1 showed how such a child is actually not involved in the parents' problems but becomes affected. S1 used English words that could easily be replaced by Sepedi alternatives. She used these words for ease of communication. Baker (1993, p. 77) contends that code-switching is also used for "ease and efficiency of expression". The aim was learning and understanding. The use of English appeared to come naturally without much thinking and in that way enhanced learning.

Another example (observed during Week 3 discussions) shows how S6 used English words for ease of expression, not for lack of Sepedi vocabulary.

S6: So wena it's either o tšea di computer games goba o tšea di-toys tšeo wa di beela ko thoko.

So you, it's either you take the computer games or toys and put them aside.

gore yena a kgone go dira something a be right, yah ka mokgwa woo.

So that s/he (child) can be able to do something correctly, yah that way.

S6 shows how parents could implement the education concept of "extinction". He had mentioned that a child's bad behaviour could have been prompted by the availability of toys, therefore temporarily withdrawing the toys would make the child behave well. Thus there would be extinction of bad behaviour. Throughout S6's utterance, English words were used with Sepedi to facilitate expression of ideas.

An example from Week 4 demonstrates how S3 used English as much as she deemed necessary to explore functions at "sensorimotor stage".

S3: So sensory motor, sensory e nora gore ngwana o no berekiša disenses tša gagwe go explora lefase.

So sensory motor, sensory just means a child uses his/her senses to explore the world.

Then motor ke movement wa di muscles, maoto le matsogo le eng...
Then motor is muscles movement, legs and hands and others ...

Ee then gora gore ntho ye nngwe le ye nngwe go swana le sense ya go toucha, go bona, eng, ngwana di a mo kgahla then o a di explora.
Yes then it means everything else like the sense of touch, sight and others. A child is attracted then he/she explores.

E no ba gona ka mokgwa woo.
It is just like that.

English words in the above excerpt also appeared to have been used for “efficiency of expression” (Baker, 1993, p. 77).

Discussion and reflection

I observed that code-switching was implemented in the above discussions. S1 and S6 used English and Sepedi comfortably. They used English technical concepts for Education concepts and for everyday communication. It also appeared that both languages were used for ease of communication. Students did not struggle for words and impede their thinking, instead they used English where necessary in order to continue the flow of their thinking.

S1 and S6 implemented this practice and used it to think at a relational level, identified in Biggs’ SOLO taxonomy, where learners analyse and apply concepts (Biggs, 1999). S1 showed the ability to analyse the Education concept “exosystem” and then applied it to a situation familiar to her peers. S6 also analysed and applied the Education concept “extinction” in order to give her peers a deeper understanding.

Institutions of higher learning may find code-switching helpful for second language students. Students could be encouraged to use their home language whilst learning through a second language. The practice could lead to effective code-switching as students would have enough vocabulary to enhance their learning. Then institutions could encourage code-switching in special contexts such as this one, where students could form groups and discuss academic concepts using their mother tongue and the language of teaching and learning.

6.2.1.4 Use of different forms of code-alternation

Code-alternation patterns emerged during the discussions. The following forms of code-alternation were identified:

- Code-switching (intersentential)
- Code-mixing (intrasentential)
- Code-borrowing
- Code-translation

i) Code-switching

In this section I analyse and interpret code-switching that I observed during the research discussions. Code-switching is observed when “an individual (more or less deliberately) alternates between two or more languages” (Baker, 1993, p. 76). Students switched between Sepedi and English during their discussions of Education Studies. Most of these utterances appeared between sentences. This practice where speakers utter a whole sentence or more in one language before they switch to another, is known as intersentential code-switching (Myers-Scotton, 1993a, pp. 3-4). The example below shows how S1 switched from Sepedi to English between two successive sentences:

S1: E re ke no e bala. Mediation, mediation is helping a person to form connection what? Connecting length in a process of understanding. O a e kwa?
Let me just read. “Mediation, mediation is helping a person to form connection what? Connecting length in a process of understanding”. Do you understand?

S1 switched from Sepedi to English when students argued extensively on the concept of “mediation” in Vygotsky’s theory of cognitive development (Vygotsky, 1978, p. 7). S1 then decided to read the meaning from the prescribed text. The first and last underlined sentences were uttered in the student’s language, Sepedi, and the direct quotation in between was expressed in English. This is known as intersentential code-switching where speakers will “switch from one language to the other between sentences” (Myers-Scotton, 1993a, p. 3).

S1: E re ke no e bala. Mediation, mediation is helping a person to form connection what? Connecting length in a process of understanding. O a e kwa?
Let me just read. “Mediation, mediation is helping a person to form connection what? Connecting length in a process of understanding”. Do you understand?

It appears that the freedom to use her language wherever necessary without any restrictions enhanced fluency and encouraged her participation.

ii) Intrasentential code-mixing:

In this section I analyse and interpret intrasentential code-mixing that I observed during the research discussions. This form of code-alternation is used to “refer to insertion of single words or short phrases into a sentence in another language” (Makalela, 2005, p. 175). An example can be seen below:

S3: Ke bone go gongwe ba re the mind is socially constructed

I read somewhere where it's mentioned that: the mind is socially constructed.

Go ra gore ntho ye nngwe le ye nngwe ye o e dirang, ke ka baka la batho ba bangwe.

That means everything it does is due to other people. (it - the mind)

Go ra gore le ngwana ge a thoma, le ngwana ge a gola o šetše a agile ke en..

(environment)...ke tikologo yeo a lego go yona. Eye (...).

That means when a child grows up, s/he is already assisted by an (...) environment that s/he is in. Yes (...).

S3 used intrasentential code-mixing during the Week 6 discussion. She was expanding more on the group's discussion regarding social interaction. S3's first sentence denotes intrasentential code-mixing. S3 used both Sepedi and English switches within the same sentence. The main clause is presented in Sepedi, whereas the embedded clause is in English. The example below shows the same practice where S8 was asked by one of his peers to give his understanding of the concept “microsystem” during Week 2 discussion.

S8: O kgona go kwešiša gore ntho ye e bolela ka microsystem.

You are able to understand that the description refers to microsystem.

e bolela ka nt..sometimes ntho ge ba go hlalošetša ka English, yah o ikhutša, ya o ikhutša eng ele ka mokgo.

It talks about ... sometimes when something is explained in English, yah, you just rest as it is.

Nou le e hlaloša ka Sepedi, yah..ya.. ke kgono swara (...)

Now when you explain concept in Sepedi, yah I am able to understand (...)

S8's response also switched between Sepedi and English in the first sentence. The matrix clause in this sentence is in Sepedi and the only one English technical term appears in the embedded clause. S8 was responding to peers' requests. Each student was expected to give his understanding of the concept “microsystem”. S8 instead,

emphasized that when Sepedi was used to explain the concept “microsystem” he understood it better than when English was used. S8’s response was irrelevant and peers realized that S8 still had not reached understanding of the concept “microsystem”. This message was communicated clearly through intrasentential code-mixing of the two languages, Sepedi and English.

iii) Code-borrowing

In this section I analyse and interpret code-borrowing that I observed during the research discussions. Technical terms are borrowed from one language community and transferred to another (Kaplan & Baldauf, 1997, p. 236). An example can be seen in Week 7, when S1 introduced Piaget’s stages of child development as follows:

S1: **Distage** tše re a go di lebelela ke: **sensory stage**, sa bobedi ke..
The stages that we are going to look at are: sensory stage, the second is...

S5: preoperational...

S1: ...Ke preoperational stage, sa boraro ke concrete stage and then sa mafelelo ke formal stage.
It is preoperational stage, the third is the concrete stage and then the last is formal stage.

And then gona bjale re yo thoma go boledišana ka sensory stage. Ke tla thoma go e hlalosa ka mokgwa wo ke e kwešišago. Yo mongwe o tla tlaleletša mo ke boletšego, ra siedišana.
And then now we shall discuss the sensory stage. I will begin to explain by giving my own understanding. One of you will add and we shall take turns.

S1 and S5 above borrowed a code into the main code for Education concepts. The absence of these Education technical terms in the students’ home language is evident in the way both students used the English technical terms for the Education concepts during the discussion. In this instance both S1 and S5 articulated the concepts in their original language, English, without changing them morphologically and phonologically.

iv) Code-translation

In this section I analyse and interpret code-translation that I observed during the research discussions. According to Malakoff and Hakuta (1998, p. 146), translation “involves replacing an utterance in the source language with an equivalent utterance in

the target language ...”. Code-translation emerged during the interactions, where single words, short and long phrases, whole sentences were translated from English to Sepedi or vice versa and juxtaposed in the same conversation. Examples below show where S5 and S2 translated words:

S5: Yah, lehono re tlo lebelela mhmmm dilo tše, phapano. Re tlo lebelela di-theorists tše tše pedi, Piaget le Vygotsky.

Yah today we shall look mhmmm into these things, differences. We shall look into these two theorists, Piaget and Vygotsky.

So re tlo lebelela moo e leng gore ba... *disimilarities tša bona, moo e leng gore ba a kwana*. Go na le dilo tše e leng gore ba kwana ka tšona, le dikgohlano, *didifferences, diphapano* tše e leng gore ga ba kwešišane ka tšona.

We shall look at where they... their similarities where they agree/similar. There are things that they both agree on, and differences, where they differ.

So ya mathomo re tlo lebelela, ehh ya mathomo re tlo lebelela mmmm *disimilarities tša bona, di... di tshwano tše e leng gore ba ba ba... bobedi bja bona ke di-constructivists mmm... (whispering) Ehh ke kgopela S2 o... o tšwele pele...*

So first we shall look at, ehh... the first we shall look at mmmm their similarities, their differences that they are both constructivists mmmm (whispering). Ehh S2 please continue...

S2: Oo ka ge ba boletše bašomišane-ka-nna, gore lehono re tlo bolela ka diphapano le tshwano magareng ga di-theorists tše tše pedi, Piaget le Vygotsky.

Oh as my coworkers today agreed that we shall discuss differences and similarities between the two theorists, Piaget and Vygotsky.

Ehh Piaget le Vygotsky ba swana ka gore tsebo ke ntho yeo e leng gore batho ka moka ba e aga. Ke moo e leng gore ba swana ka gona.

Ehh... Piaget and Vygotsky are similar in that they both say knowledge is something that all people construct. This is where they share similarity.

Ka sekgowa ke moo e leng gore re tlo re Piaget o constructor knowledge moo e leng gore o a e aga, motho yena o a ikagela ka boyena.

In English that is where we shall say that Piaget is a constructivist where he constructs knowledge on his own.

Then ge re lebelela Vygotsky ke moo e leng gore motho ka gare ga batho or ka batho ke moo e leng gore o kgona go aga tsebo yeo e leng gore o nyaka go ba le yona. ‘Be nka rata S3 a tlalletše.

Then when we look at Vygotsky this is where a person in the midst of other people or as a result of people, it is where he/she construct the knowledge that he desires to have. I would like S3 to add.

S5 translates the words “similarity” to “tshwano” and “differences” to “diphapano”. These words were translated because there were equivalent terms in the target language. S2 uses S5’s translated words to continue the discussion and adds “aga” for construct. The translated words appeared to make the students more comfortable with the

discussions. I also observed how students mediated knowledge, as they worked painstakingly to compare Piaget and Vygotsky's theories.

Discussion and reflection

In the above examples, students used code-alternation to deepen understanding of Education concepts. These ranged from intersentential code-switching, intra-sentential code-mixing, code-borrowing and code-translation. It appeared that the main purpose of alternating codes was to enhance their understanding of Education content knowledge. Students continued to use English and Sepedi interchangeably in a dynamic manner. Their contributions in the discussions were conveyed through the use of both languages. It appeared that the students regarded mixing of English and their mother tongue, ideal at this level of their education. Their mother tongue appeared to facilitate access to the academic world. On the other hand, English appeared to be the second important language for use as it is the LoLT and the language of assessment. Students' mother tongue, Sepedi, was used as the main language and English to a lesser extent during the discussions. The "matrix language" is the main language used for communication and the other languages which participate in the main language but to a lesser role are referred to as "embedded language" (Myers-Scotton, 1993a, p. 3).

It also appeared that S3's intersentential code-switching was used to "emphasize a point by quoting" (Baker, 1993, p. 77). On the other hand, S8 used intrasentential code-mixing where the English technical term "microsystem" was used to refer to the same Education Studies concept. Code-mixing in this instance was used because the concept "microsystem" is "not yet known in both languages" (Baker, 1993, p. 77). This strategy serves to enrich Sepedi with a technical term. Yafele (2009) also concurs that there is a lack of terminology in Sepedi. In his research study of teaching students Communication Theory in Sepedi, he writes:

It is difficult to talk about what counts as knowledge in Communication Studies (Theory) using Sepedi. Specialist language that captures the essence of the concepts is simply non-existent. This may be regarded as an important limitation (Yafele, 2009, p. 52)

See examples observed during students' discussions in Section 6.2.1.1 above for further clarification. It was clear that code-alternation served a variety of functions during group discussions in the research study.

I also observed that students mostly used the informal version of their mother tongue. Initially when selecting the students, one criterion I used was that they should hold a matriculation qualification in Sepedi. I assumed that such a qualification would encourage them to use a formal language at all times for learning. My observations were contrary to this assumption. Students in this context, even though they were discussing academic concepts, mostly used an informal version of their language. This suggested that students preferred an informal learning situation, where they used informal language to communicate academic concepts.

Another observation I made is that during the main study students used more English though still in its lesser form compared to the use of Sepedi. It appeared that the pilot study group used more Sepedi in their discussions than the main study group. The pilot study group seemed to lack more English language vocabulary compared with the main study group. Both groups of students in the research had a matriculation qualification in Sepedi and received rural schooling, with the exception of one student in each of the groups. I then could only ascribe the difference of each group's usage of English to the level of students' aptitude. The University of the Witwatersrand's admission requirement was also higher in 2011 than in 2010.

6.2.2 Exploratory talk that leads to understanding

Exploratory talk emerged during the main study discussions as it did in the pilot study. Exploratory talk is highly recommended as supportive of learning situations. Mercer (2000, p. 98) describes exploratory talk as where "... partners engage critically but constructively with each other ...". In this kind of talk, speakers may, for example, assert, challenge, explain or make requests for clarification, followed by responses that provide explanations and justifications (Mercer, 1995, p. 105). The students in this research used exploratory talk and engaged some of the practices mentioned by Mercer (1995).

The following types of exploratory talk were also observed in the main study:

- 6.2.2.1 Extensions
- 6.2.2.2 Requests
- 6.2.2.3 Challenges
- 6.2.2.4 Explanations
- 6.2.2.5 Use of questions

I will analyse, discuss and reflect on the above aspects in the following section.

6.2.2.1 Extensions

In this section I analyse the extensions that emerged during students' discussions of Education concepts through their mother tongue, Sepedi. I also discuss and reflect on these extensions. Extensions were also observed during students' discussions in the pilot study.

An example is found when one student extended another's ideas during the students' discussions on the concept 'negative reinforcement'.

S2: Yah go tlaleletša moo like go na le(...) ka ga **negative reinforcement** , ka ge a boletše gore okare di na le go swananyana gannyane, which di a nconfusa le nna.
*Yah to add in terms of **negative reinforcement**, as already said it's a lot similar to (punishment), though I also have some confusion about the two.*

ga ke kwešiši, mara nka re ka go **negative reinforcement** ke moo e leng gore maybe ngwana ga a sa hlwa a dira tšona ka lapeng.
I don't understand but negative reinforcement is where a child is not behaving well at home.

a fetša moo ehh maybe o boa bošego goba o dira dilo tša go tšwa tseleng.
Then from there ehh maybe he comes late at night or is misbehaving generally.

ke moka motswadi o tlo dirang? a ka se hlwe a sa mo rekela dilo tšeo e leng gore o be a mo rekela, a ka se hlwe a sa mo direla dilo.
Then what can a parent do? S/he may stop buying the child commodities that s/he used to buy, stop doing things for the child.

So o tloša (...) a ka se hlwe a sa mo direla dilo tšeo a bego a mo direla kgale. Wa bona.
So s/he removes (...) s/he stops doing things s/he used to do for the child. You understand.

In the discussion S2 added her own understanding of the concept "negative reinforcement". Two students expanded on the concept prior to this discussion, that is,

S6 and S3. S6 had given his understanding of punishment - positive and negative reinforcement. S3 raised the problem of differentiating between punishment and negative reinforcement. Thus S2 gave her version in order to focus the students' efforts on one concept. An interesting aspect was that the students explained concepts using illustrations from their everyday experiences in their homes and immediate communities.

Discussion and reflection

The discussions above appeared to be conducted with sufficient language support and thus can be regarded as "context embedded" (Baker, 1993, p. 139). Such a situation facilitated the learning of education concepts, known by Cummins as "cognitively demanding" (1996, p. 58).

I also observed how peers assisted each other to understand concepts during the group discussions. The interactive nature of the small group discussions facilitated their understanding. I then realized that the study could also be related to Vygotsky's Zone of Proximal Development. The latter is a conceptual tool that Vygotsky uses to define "those functions that have not yet matured but are in the process of maturation, functions that will mature tomorrow but are currently in an embryonic state ..." (Vygotsky, as cited in Lantolf & Thorne, 2009, p. 266). Vygotsky asserts that this development is made up of both individual effort and the larger socio-cultural context in which the individual is embedded. In this study, students who share a socio-cultural background meet to discuss course content in which all are registered in the first year of study. The group discussions were highly supportive as peers talked and shared content knowledge. The students each came to the discussion with what Vygotsky termed their "actual developmental level" denoting those tasks that students were able to do by themselves (Vygotsky, 1978, p. 86). After being assisted in the manner described above, they could then attain their "potential developmental level" expressing those tasks students could only accomplish with the help of "more knowledgeable" others who could be "peers, siblings, the teacher, parents, grandparents, and so on" (Vygotsky, as cited in Bennett & Dunne, 2001, p. 53). In this case the group members played this part.

Both in the pilot and main studies the “more knowledgeable” other was one of the peers. The difference between this study and Vygotsky’s conceptual tools, is that no particular student could be singled out as “more knowledgeable” than others for all the ideas that came up in the discussions. All students had vital content knowledge to share with peers at one or another point during a single discussion. In the main study, S8 registered late and experienced learning problems. The group rallied around him during earlier discussions and in later discussions he gave valuable contributions of concepts. Accounts of S8 were discussed in section 6.2.5.

The discussions above could also be linked to Cummins (1996). Students used their ordinary everyday mother tongue which had sufficient “interpersonal and contextual cues” regarded as “context embedded” (Cummins, 1996, p. 58). However students also extended their knowledge by challenging Education concepts as observed above. S2 extended understanding of the Education concept “negative reinforcement”. Such a concept could be regarded as “cognitively demanding”. These concepts require students to engage in “intense intellectual discussion” involving the disciplinary language of school (Cummins, 1996, p. 59). In such contexts students are given an opportunity to use their mother tongue to discuss challenging concepts and reach understanding.

I also observed that language was able to move meaning from a group to individual students. S2 took other students’ explanations of the concept “negative reinforcement” and extended that to his own understanding. (See S2’s extension above.) O’Keefe (1995, p. 10) cites attributes linking speech to thought observed in oral communication. She concurs amongst others that “interpersonal speech becomes intrapersonal...” In the interchange above S2 also internalised peers’ understanding and reached personal meaning of concept.

6.2.2.2 Requests

In this section I analyse and reflect on requests that emerged during the discussions. Requests were made by students as they explored Education concepts through their mother tongue, Sepedi. Responses to requests helped deepen understanding of concepts. S4 requested the group to explain Piaget’s “sensorimotor stage” to him (Donald et al., 2009, pp. 53-54):

S4: Nke le nhlalosešeng **sensory stage**.
*Please explain the **sensory stage** for me.*

go na le di **substages** ka gare ga **sensory stage**.
*There are **substages** in the **sensory stage**.*

Ene ga se ra bolela ka tšona, re di tshetše.
And we did not speak about them, we skipped them.

S4's request was also a reminder to the group that they needed to refocus and not skip the substages in the sensory stage. He pointed out:

S4: ...go na le di **substages ka gare ga sensory stage**.
*There are **substages** in the **sensory stage**.*

Ene ga se ra bolela ka tšona, re di tshetše".
And we didn't speak about them, we skipped them.

The request was answered by S8. He listed the sensory stage sub-stages as involving a circular response: symbolic, object and imitation. He read from the prescribed text to respond to S4's request:

S8: Ke circular. Go na le di sub-stages of sensory stage.
It's circular. There are sensory stage sub-stages.

Ke circular response, ke symbolic, ke object le imitation. *Circular response mmm is a form of adaptation in infancy that involves the child learning from a young age by accident. The child accidentally performs actions, realises that he might enjoy it and repeat. The operational thinking is logical thinking.*

It is the circular response, the symbolic, the object and imitation. Circular response mmm is a form of adaptation in infancy that involves the child learning from a young age by accident. The child accidentally performs actions, realises that he might enjoy it and repeat. The operational thinking is logical thinking.

S8 quoted the meaning of the concept "circular response" directly from the prescribed text to respond to S4's request. I observed that S4 was not satisfied with the response as S8 failed to simplify the meaning in Sepedi.

Discussion and reflection

The interaction above was yet another evidence of the importance of using mother tongue in the learning of academic concepts. S4 expected S8 to use mother tongue to respond to his request. Any failure to simplify the concept in mother tongue rendered the response meaningless for S4.

The ability of peers to make requests and receive feedback was also an indication that collegiality and collaboration existed in the group. I observed that the students' main aim during the research was to ensure that all members left the discussions with a good understanding of specific Education concepts.

S8 quoted directly from the text in an attempt to respond to S4's request that peers should assist him with an explanation of the "sensorimotor stage". Paxton (2007) observed African students' written text and how they tend to use long quotations from texts as they are still learning to write academically. This tendency he termed "borrowing and mimicking the new discourse" (Paxton, 2007, p. 51).

6.2.2.3 Challenges

In this section I analyse and reflect on challenges that emerged during the discussions. It demonstrates how one student felt when one of the peers had a misunderstanding about the content.

An example that illustrates challenges referred to above can be found in discussions that occurred during Week 6.

S9: So that's why ba re '**mediation tool**' ke gore re tsene go '**mediation tool**'.
*That is why they say **mediation tool**, which means we have now begun with section on **mediation tool**.*

S5: Mediation tool? (S5 verifies if mediation is a tool because S3 who spoke before S9's statement above, explained that mediation is a process)

S9: Yes.

S4: **Mediation tool**? ahh le a ntimetša jwale, a ke e tsebe ntho yewe **mediation tool**?
***Mediation tool**? Ahh you are misleading me now, I don't know that **mediation tool**!*

S9: Ee **mediation is a psychological tool**, ke gore mediation ke (...)
*Yes, **mediation is a psychological tool**, that means mediation is...*

S8: ya mara o bolela nnete.
Yes you are correct.

S4: Hayi, e seng gore (...) gape a re kwane ka ntho e tee, akere poledišano e diragala gare ga **mediation** akere, so go ya ka kwešišo yaka, pelodišano ke yona **psychological tool** (...) e seng **mediation**.
No, not that ... let's agree on one thing, dialogue occurs during mediation isn't? So according to my understanding, dialogue is a psychological tool not mediation.

S9: Polelo ye, ke yona 'psychological tool? ke gore ke yona tool ewe.
Language is the psychological tool? Which means that is the tool (meaning that language is a psychological tool).

In the above discussion S9 made the assertion that “mediation is a tool” for learning. However, S4 disagreed with this point of view and stated that “mediation is a process, not a tool”. According to Vygotsky, as cited in Donald et al. (2009, p. 59), mediation occurs “through proximal social interaction...“. The group discussions facilitated the process of mediation through challenges in this space that Vygotsky regards as the “ZPD” (Vygotsky, 1978, p. 86). It is through language that students in this discussion were able to interact and challenge each other to reach understanding. Vygotsky’s theory therefore, supports S4’s statement that mediation is a process, whilst language is a vehicle that facilitated the process. To me the students’ discussion of the above concepts was sophisticated and showed deep thinking.

Through mediation in the ZPD students were able to move from their “actual developmental level” where they were not able to complete tasks on their own to their “potential developmental level” where with the assistance of others, they were able to reach understanding (Vygotsky, 1978, p. 86). Therefore the students’ discussions led to constructive conclusions. S4’s final comment that “mediation is not a tool” implied that it is a “process”. Other students reached a similar conclusion as seen in S8, S3 and S2 below.

S4: Ee, e seng 'mediation, coz 'mediation' ka mokgwa woo ke kwelego ka gona bare ke process (...)
Yes not mediation, coz, from what I understand, mediation is a process (...)

S8: mmm (*yes, also agreeing that mediation is a process*)

S4: so e ka se be psychological tool.
So, it can't be psychological tool.

S3 and S2 agreeing with S4.

The students’ discussion appeared to me to be sophisticated. S4 challenged his peers’ understanding of concepts, and offered his understanding which proved to be appropriate. The discussion assisted students to clear their misunderstandings of the two concepts. See how S9 affirmed S4’s understanding that “language is a psychological tool”.

S9: Polelo ye, ke yona 'psychological tool? ke gore ke yona tool ewe?
Language is the psychological tool? Is that the tool?

S4: Ee, e seng 'mediation, coz 'mediation' ka mokgwa woo ke kwelego ka gona bare ke process (...)
Yes not mediation, coz, from what I understand, is that it is a process (...)

Discussion and reflection

S9 used the discussion to internalise the meaning of the concepts. Therefore discussions assisted students to think more deeply. Mercer, Wegerif and Dawes affirm that exploratory talk, is talk “in which partners engage critically but constructively with each other’s ideas” (1999, p. 3). S9 was thus assisted by interaction with peers that helped students’ thinking about content knowledge. (Mercer et al., 1999, p. 4) also mentions some advantages of exploratory talk, which amongst others, “to help children to reason together more effectively...”. S9 in this discussion provides evidence of these ideas as he appeared to finally agree with S4’s understanding.

Students appeared to individually also find the correct understandings of the concept. In the above interaction, peers assisted S9’s speech to move from “interpersonal to intrapersonal” speech, an attribute in speech “that controls thought processes” (O’Keefe, 1995, p. 10). S9 used S4’s contributions to finally arrive at his own way of thinking.

S9 appeared to operate at Biggs’ metacognitive level of thinking. At this level learners are able to “theorize, generalize, hypothesize or reflect” on their learning (Biggs, 2003, p. 3). S9 reflected on his own learning in the above discussion. This kind of learning is considered critical if students “are to become autonomous and self-directed in their tertiary learning and later in their professional lives” (Biggs, 1999, p. 31).

In this study context, a safe space specially created for students to discuss concepts as peers, encouraged students to engage in exploratory talk. The students’ mother tongue was the main tool that facilitated the talk. Students used their mother tongue, Sepedi, rather than English to explore the Education concepts. English is the language of learning and teaching at the University of the Witwatersrand, and is a challenge to some African students in the learning of theoretical courses.

6.2.2.4 Explanations

In this section, I analyse and reflect on explanations as another principle of the kinds of exploratory talk that emerged during students' discussions. Then I analyse and reflect on the explanations that emerged during the main study. This category also emerged during the pilot study.

It is important to explain content knowledge thoroughly in order to gain full comprehension. During the main study discussions students explained concepts in order to reach understanding. This kind of practice also emerged during the pilot study. This could be found in all the eight hours of group discussion sessions in the main study. An example is found in Week 8 below, where S6 cites concepts related to Vygotsky's ZPD, which are the "actual and potential level of development" (Vygotsky, 1978, p. 86). Three of the students, S2, S3 and S4, declared a lack of knowledge of the concepts:

S6: Yah mo go **ZPD** go na le mo gongwe ba bolela ka **actual development** le **potential development**, di fapana-fapana jwang?

Yah in ZPD there is somewhere where they talk of actual development and potential development, how do these differ?

S7: **actual development** ?

Repeats to indicate no knowledge thereof too.

S2: nna a re di tsebe.

I do not know that.

S4: nna ke mathomo ke di kwa.

I hear that for the first time.

S3: *Ayi nna a ke tsebe...*

No, I do not know ...

All students laughed: (that they did not know concepts mentioned by S6 above)

S2: S6 re hlalosešše, rena re thoma go kwa ka tsona.

S6 please give us an explanation (of the concepts). This is the first time we hear about them.

S7 volunteered to provide an explanation:

S7: Yah nkare 'actual' e ka ba tsebo yeo e leng gore ngwana o be a na le yona already.

S7(Cont.): *I can say with 'actual' can be that knowledge that the child possessed already.*

Ke moka 'potential' ke yeo e leng gore o tlo e hwetša ka morago ga ge ba mo thušitše. *And then 'potential' is that knowledge that the child will possess after being assisted by others.*

The above explanation communicated descriptions of the two concepts clearly through the students' mother tongue.

Discussion and reflection

I observed that such explanations also assisted students in this research to explore Education concepts. Explanations among the participants were thus other forms of exploratory talk that students use to communicate their understanding of content knowledge.

I also observed that the explanations were facilitated by the use of the students' mother tongue. This process gives enough help for students in terms of, for instance, "actions with eyes and hands, instant feedback, cues, and clues to support verbal language" (Baker, 1993, p. 11). Therefore they were able to communicate with ease. Such contexts are regarded as "context embedded communication" (Baker, 1993, p. 139) because there is sufficient contextual support to meet the academically challenging Education concepts.

Students continued to use English technical terms for Education concepts, because Sepedi is not yet sufficiently developed to communicate academic concepts. They were faced with "cognitively demanding" Education concepts which they found easier to explain through their mother tongue (Baker, 1993, p. 11). This was the reason for selecting Cummins' B quadrant as the space where this research is located. This quadrant is "context embedded" and "cognitively demanding" (Cummins, 1996, p. 59). Students are able to discuss challenging Education concepts, whilst using their informal language Sepedi to explore the concepts. In the B quadrant there is sufficient language support (Cummins, 1996, p. 58). (See Cummins' theory, Figure 7 in Section 6.2.1.2, above.)

The discussions showed that explanations are facilitated by the language that individuals use in their everyday life contexts. It indicated that such discussion can be too strong. It also suggested that institutions could utilise students' home language as a resource to enhance learning and understanding. The examples indicated that peers do not have to be the "more knowledgeable others" in order to assist each other in their learning. A group of peers could all be the "more knowledgeable others" as they each

contribute to the understanding of different sections of the work in specific ways. In this research I observed that all students contributed valuable information at one point or another during each of the eight hours of group discussions.

6.2.2.5 Use of questions

In this section I discuss how students used questions to develop their understanding of Education concepts during the main study. I also analyse and reflect on the observation I made.

Questions posed by students during the discussions varied in terms of levels of thinking, ranging from lower level orders of thinking to higher orders of thinking. S4 asked a question, others were unable to answer, so he answered it himself.

S4: Ke na le potšišo ya mathomo.
I have the first question.

Botse transformation le assimilation ke ntho e tee?
In essence, is transformation and assimilation the same?

S8: No. transformation (S8 is not answering question posed)

S4 posed a question that required peers to distinguish between two concepts, “transformation” and “assimilation”. S8 hesitantly argued that the two concepts were dissimilar. Other peers did not attempt to respond to the question, thus S4 provided a response as seen below:

S4: Ke ntho ye e fetogago akere? (meaning transformation)
It's something that change, is that not so?

Mokgwa le ge S1 a hlaloša assimilation yela o transforma information mola nna ke tseba gore assimilation e oketša information e sa e transforme.
The thing is even though S1 explains assimilation as transformation of information, I know that assimilation is where knowledge is added and not transformed.

Ke ntho ye ke sa e kwešišego gona moo.
Right there, that is what I don't understand.

This excerpt reflects levels of thinking and engagement. It appears that students' exploratory talk moved on a continuum between lower levels of thinking and higher levels of thinking. In the above example S4's question demanded that the students

function at the “relational level of thinking” (Biggs, 2003, p. 3). At this level of thinking, Biggs (2003, p. 3) asserts that task words such as “compare/contrast” are used. In the above example the students required their peers to compare and contrast the concepts of “transformation and assimilation” of content knowledge. At this level of thinking students needed to explore and relate similarities and differences between “assimilation and transformation”. These kinds of questions and responses appeared to assist students to operate at higher levels of thinking during the discussion.

Another example indicated thinking at a lower level than the example provided above. During Week 5 S3 posed a question to which S1 responded:

S3: Ke kgopela go botšiša, ke kgopela le nclarifaye le, le le nclafifaye le ka mediation, le nhlalošetše gore naa ke eng mediation, ge ba ka re o e hlaloše o ka re ke eng?

Please could you clarify mediation for me, explain what is mediation? What would your response be if you were requested to give an explanation of “mediation”?

The above question required students to function at Biggs’ “multi-structural” level of thinking (2003, p. 3). At this level task words such as “enumerate, describe, list, combine and do algorithms” are observed (Biggs, 2003, p. 3). S3’s task word was “describe” in the above question. Therefore it required peers to provide a description of the concept of “mediation”. S1 responded:

S1: Mediation ke ge batho ba babedi ba bolela, ba thušana, yo mongwe o nale tsebo ya go feta ya yo mongwe.

Mediation is when two people are having a conversation, and one has more knowledge than the other.

And then, yo mongwe o na le tsebo ya go feta ya yo mongwe akere?

And then the other has more knowledge than the other isn't?

and then wena ka mokgwa wa nowo, nna mediator ke gore ke a, ke, ke gore e similarly le go thitšha so, yah e similar le go thitšha, o a mediator.

and then in that manner, as mediator, it means is similar to a teacher, a teacher also mediates.

The above response indicated that S1 had understood the meaning of “mediation”. She was able to remember the content that was related to the concept. Positive results were seen when S3 acknowledged the understanding that she achieved after S1’s description, which she had not grasped during their formal tutorial:

S3: Jah, ke kwele ba efa example ka tutorial ba re ke mediation, bjale ke sa kwešiši bjale....
Yes (to say oh I understand), an example to illustrate mediation was given in the tutorial, but I did not understand, then...

Discussion and reflection

I concluded that questions are vital in learning and development of thinking. When students work together and assist each other to reach understanding, they use questions that develop different levels of thinking. The above discussions served as a suitable context where students could structure and pose questions that indicated their thinking levels. S4, above, posed a question at Biggs' relational level of thinking (Biggs, 1999). The responses also indicated the levels of thinking that were embedded in the questions. From the data above I concluded that all language teachers can deliberately encourage learners to pose and respond to questions that would develop different levels of thinking in classrooms.

This section on exploratory talk was also regarded as vital for learning because it was through talk that students reached understanding of the learning content. One of the students also confirmed understanding of content knowledge being enhanced in exploratory talk. One such example was found in S4's response on the value of the Sepedi discussions:

S4: I can say that ... during the interaction I started to realize that in most cases, without talking about something, you won't understand it totally.

S4 confirmed that the talk was vital for improved understanding of the content. Through talk, S4 reached what he regarded as understanding something "totally". I interpreted this to mean a removal of many misconceptions. Language plays an important role in facilitating talk, as learners help each other to reach understanding.

This research indicated that students assisted each other to think more deeply during talk. They also found suitable individual learning strategies of using language to think. Mercer illustrates this in an experimental teaching programme with sixty British primary school children, in order to help children use language effectively for thinking (Mercer et al., 1999, p. 4). He refers to some of the advantages of exploratory talk:

- to help children to reason together more effectively;
- to help children develop better ways of using language as a tool for reasoning individually, and that it can be increased by
- using specially designed teacher-led and peer group activities.

Exploratory talk was accelerated in this study by providing a special peer-led context where students conducted group discussions of Education concepts through mother tongue, Sepedi.

6.2.3 Culturally oriented discourse habits

In this section, I analyse and reflect on the culturally oriented discourse habits that I observed during both the pilot and main study.

During the main study, students engaged in discourse habits that were informed by their culture. These were somewhat different from those observed in the pilot study. In the pilot study students called on each other to take a turn in all the discussions. In the main study students followed three distinct patterns. In Week 1 students randomly picked peers to take turns. In Week 2 S2 made an announcement at the beginning of session wherein she instructed the students to take turns in contributing to the discussions in succession. In some instances students would call each other by name to take turns. It appeared that students accepted all three ways of taking turns amicably as they responded without argument.

At the beginning of Week 2 in the main study, students were discussing the different systems postulated by Bronfenbrenner (1977). These included what he calls the “microsystem, mesosystem, exosystem, macrosystem and chronosystem” (Bronfenbrenner, 1977, as cited in Donald et al., 2009, pp. 40-43). S2 asked the group to provide an input into the understanding of systems pronounced by Bronfenbrenner (1977). The Week 2 discussion mainly followed S2’s request. I observed how students’ respected the request by implementing the process of turn taking in consequent discussions. S2’s request is presented below during the students’ discussion of the concept of “microsystem”:

S2: ... Eh ... S1 a bolele gore le yena o e kwešiša bjang, ka moka le S8. Ka moka ga rena re bolele gore re e kwešiša bjang, in each and every system.
... Eh ... *Let S1 discuss how she understands it (concept), all of us including S8. All of us should explain our understanding, in each and every system.*

The above request provided an environment in which a cultural ethos prevailed without interruption. However students did not wait to be called by name during most of the Week 2 discussion following S2's request.

Students also reverted to the system used in the pilot study, where they would call each other by name in order to take turns. This kind of turn taking is common practice amongst the Bapedi communities when groups of people engage in discussions. For example in Week 2 S2 interrupted S7 and called on S4 to take a turn:

S7: So...
So... (S7 was interrupted by S2 when starting to speak)

S2: S4, o ka tšwela pele.
S4: *You can continue (the discussion)*
(It appears that S2 thinks not enough has been said by S7. She calls on S4 to take a turn to explain the concepts)

The discussion was still focused on the first concept "microsystem". S7 attempted to give his understanding of the concept when S2 interrupted and called on S4 to take a turn. S2 supported the disruption. It was a further indication that S2 wished to maintain collegiality in the group. It also appeared that S7 was struggling to explain the concept "microsystem" stated by Bronfenbrenner (1977), thus it was a relief to discontinue the discussion.

I also observed that students would be called by name to take turns. An example was found in Week 7, where S1 invited S4 to take a turn by calling his name:

S1: S4 o ka re hlalosešša ka mokgwa woo o kwešišago ka gona Piaget stage no ... ehh go ya ka... ntho engwe le engwe ... stage no1, sela sa sensory stage.
S4, you can give your understanding of Piaget's stage no... ehh according to anything you wish ... the first stage ... the sensory stage.

Wena o ka e hlalosa ka mokgwa woo o e kwešišago ka gona.
You can explain it the way you understand it.

Prior to this turn, S6 had given a description of an Education concept “equilibrium” discussed in Piaget’s theory of “cognitive development”. S1 moved the discussion further to Piaget’s first stage of child development, the “sensorimotor stage” (Donald et al., 2009, p. 53). S4 conceded that the discussion was still on Piaget’s concept of “equilibration”. Nevertheless he agreed to discuss the “sensorimotor stage” as suggested by S1 (Piaget, 1953 as cited in Donald, 2009, pp. 52-53).

I observed that S4’s body language indicated that he would respect S1’s order to discontinue the discussion on “equilibration” and to continue to discuss the “sensorimotor stage”. He said that even though he wanted to discuss “equilibration” he was happy to move to “sensorimotor stage” as requested by S1. S4’s action appeared to be that of one who was striving to maintain consensus in the group:

S4: Ok, be ke re ke tlo... be ke re ke tlo bolela ka equilibration, bjale ka ge le re ke bolele ka sensory stage.

Ok, I was going to speak on “equilibration”, now you say we must talk about “sensory stage”.

Sensory stage ke moo e leng gore ngwana o kgona go kwešiša lefase ka mokgwa woo le sepelago ka gona, ka go sensor dilo, go swana le ... nkare go kgoma dilo, go ... go taste, le go kwa le go lebelela.

Sensory stage is where a child is able to understand the work by sensing things ... like ... to touch things, to... to taste, and to hear and to see.

Ke ka mokgwa woo e leng gore sensory stage e šoma ka gona mo ngwaneng,.
That is how the sensory stage operates in a child.

Ke moo e leng gore ke between eh ngwana a sa belegwa le 2 years. Ke ka mokgwa woo ke e kwešišang ka gona.

That is between the child’s birth and 2 years. That is how I understand it (this stage).

Discussion and reflection

The response above indicated the willingness of students to work in cooperation with each other in an amicable atmosphere to enhance understanding of the Education concepts. I observed that S7 and S4 were happy to take turns as suggested by their peers. I was not surprised by S7’s and S4’s amicable responses. In Bapedi communities, turn taking is usually initiated and accepted by speakers during group discussions.

Students in the research functioned in cooperation with each other. Two of Boykin’s (1986, 1994) nine dimensions identified in Black Cultural Ethos, “harmony” and

“communalism”, were observed during the discussions. These dimensions include: spirituality, affect, harmony, orality, social perspective of time, expressive individualism, verve, communalism and movement” (Parsons, Travis & Smith Simpson (2005, p. 188).

“Harmony” is characterized by the ability to adapt and maintain “wholeness”. S2 called on S4 to take a turn and interrupted S7’s discussion, but harmony continued to exist in the group. S1 asked S4 to take a turn and S4 complied. The behaviour of both students S7 and S4 was in agreement with Boykin’s “Black cultural ethos”, which indicated how African students, like African Americans, relate in the world.

Another culturally oriented habit observed was “communalism” (Boykins, 1983, 1986). In this situation groups are “committed to the interdependence of people and to connectedness that esteems social bonds and responsibilities over individual privileges” (Parsons, 1997, p. 748). This habit was observed when S7 and S1 sacrificed individual interests for the good of the group in order to maintain communality. Maintenance of continued connectedness between peers was favoured over individual interests. In the above instances, individual students responded to the requests. They randomly pointed at peers to take turns or called their names. Culturally, it is acceptable to call people by names or make announcements that bind people to give contributions in succession. On the other hand, “handpicking” is culturally unacceptable, except where there are close relationships. The finger used for pointing is known in Sepedi as ‘Tšhupabalo!’ (*witch’s pointer*). It is therefore not acceptable to point at people. I observed though in this research that handpicking was acceptable among peers sharing a similar understanding.

The use of “cultural habits” was facilitated by students’ use of a similar language because when people share a language they communicate in ways that “integrate words, acts, values, beliefs, attitudes and social identities, as well as gestures, glances, body positions and clothes” (Gee, 1996, p. 127). The students in this research communicated with others, and used “actions” and “words” that were common to the group and thus found it easy to implement a flow of discussion. Thus the language used by students was embedded with “cues” that assisted other students to flow in the discussions and thus save time.

Students' discussions of Education concepts through mother tongue encouraged participation that enhanced deep thinking. Therefore use of mother tongue should be encouraged in learning contexts to promote deep thinking.

6.2.4 Morphological transformation

In this section I analyse how students in the research used Sepedi noun class prefixes to join the English technical terms of Education Studies concepts. I also analyse how students used Sepedi syllable structure for the formation of borrowed English or Afrikaans words during their discussions. These categories emerged in all of the discussions in both the main study and the pilot study.

Nouns in Sepedi, as in most indigenous African languages, are classified according to noun classes based on their specific prefixes. The prefixes are further classified into singular and plural forms. For instance, “mosadi” (woman) is classified under noun class 1 with noun class prefix ‘mo-’ and is in the singular form. In the plural form, the noun is “basadi” (women), classified under noun class prefix 2, “ba-“. For further clarification, a list of all Sepedi noun class prefixes can be found at the end of this section.

Commonly borrowed English and/or Afrikaans words in Sepedi tend to use the Sepedi syllable structure of consonant + vowel. For example, the noun “setulo” borrowed from Afrikaans ‘stoel’ (chair) in its singular form, classified under noun class 7, with the noun class prefix “se-“. The plural form is “ditulo” (chairs) classified under noun class 8, with the noun class prefix “di-“. (The Sepedi noun class list has been included at the end of this section for further information.)

Sepedi syllable structure usually consists of an alternation of consonant + vowel. For example, the Sepedi noun: Mosadi (woman), consists of two syllables, i.e. mo- + -sadi, monna (man), also two syllables, mo- + -nna. These syllables have an alternation of consonant(s) + vowel. Thus words that end with a consonant are rare in Sepedi. These structures were also present in the pilot study analysis, Section 5.2.4.

Examples from the main study were found in Week 2. S10 formed a plural form of the term “microsystem”, using a Sepedi noun class, 10, with noun class prefix “di-“.

S10: Ok, le nna ke e kwešiša ka mokgwa owe gore **mesosystem** ke **system** yeo elego gore ga e involvi ngwana ka gae fela mara le yona ke part of..ke gore ke **dimicrosystem**itše nnyane tše di dirago **mesosystem**.

Ok I also understand it the same that “mesosystem” is a system that does not involve a child at home only, but is also a part of smaller microsystems that form the mesosystem.

In the above example S10, in an endeavour to use her mother tongue as the main language, attached prefixes to English technical terms used for education concepts. “Di-” is a noun class prefix in Sepedi used to form the plural form of nouns that belong to Noun class 10. Most borrowed nouns take the plural noun prefix of the latter in Sepedi. Whilst S10 shows instances of morphological transformation of borrowed English technical terms for Education concepts in her discussion, she demonstrates how her home language, Sepedi, is a “cultural tool” that can be used to mediate new content to peers. The process of peer mediation occurs in a special space, Vygotsky’s “Zone of Proximal Development”, where language plays a crucial role (Donald et al, 2009, p. 60). S10 used “code-borrowing” because Sepedi has not yet been used to think about disciplinary concepts at this level.

I also observed during the above conversation, that S10 used the syllable structure commonly used in Sepedi, where words rarely have a consonant ending. In order to concur with this syllable structure, S10 added a vowel ending “i” at the end of the Education concept “microsystem” and was then “dimicrosystemi” in its new format. This common noun class pattern and the most commonly used syllable structure in African languages appeared to promote learning during the discussions. Students’ flexibility and freedom to use their language prefixes with the English technical terms, appeared to make them comfortable and to perceive the concepts as attainable. Thus the activities of the students in the Zone of Proximal Development allows them to use their “actual developmental level” as a scaffold to mediate their understanding of otherwise challenging academic concepts, in order to reach their “potential developmental level” (Vygotsky, 1978, p. 86).

Also in the same week, S9 used the Sepedi syllable structure with the English verbs “interact” and “support”, by attaching the verb ending “a” and “o” respectively. This is demonstrated in below in a section of S5’s contributions on “mesosystem”.

S5: Nna ge ke lebeletše mesosystem, e interacta le microsystem.

In my opinion when looking at the interaction between mesosystem and microsystem.

If ngwana ka hae a sa humane supporto, a sa humane supporto ka hae, then ha a fihla sekoloni, o khumana support mo skoloni,
If a child does not get supported at home, and finds support at school,

Ke hore o bona experience ye e sa swanego le ya ka hae.
S/he finds a different experience from the one at home.

Ke gore ka hae ga ba mofe support, ge a fihla ka sekoloni, let's say o fihla sekoloni or community e mo fa support e itšeng.
That means s/he does not get support at home, but when arriving at school, let's say you arrive at school or in the community and they give her/him particular support.

Ke hore yena ha a understande le hore why motswadi wa ka hae a sa mphe support but mara ge ke tšwela ka mo ntle batho ba bangwe ba kgona go mpha support mara nna hae supporto ha ke se khumane.
That means s/he does not understand why her/his parent does not give him support but when s/he leaves the home other people are able to support what s/he does not get at home.

Ke hore o kgona go identifiya ke hore o fiwa support mo kae. This is how I understand it.
That means s/he is able to identify where s/he is able to find support. This is how I understand it.

From the above contributions made by S5 during Week 2, the common Sepedi syllable structure was again observed. There was a vowel ending after a consonant. English verbs “interact”, “understand” and the English noun “support” changed to the Sepedi word structure as “interacta”, “understande” and “supporto” respectively. Myers-Scotton (1993a, p. 3) in her discussion of code-switching, asserts that “the matrix language sets the morpho-syntactic frame of sentences showing the code-switching”. The “matrix language” is the most commonly used language during code-switching, and the “lesser language” is the less used language (Myers-Scotton, 1993a, p. 3). Sepedi was the main language used during the research whilst English was used to a lesser extent. Therefore the structure of words in the discussions took the format of the main language used in the discussions, Sepedi. This phenomenon was observed during all the discussions in the main study. (Figure 8, at the end of this section, shows a list of all Sepedi noun class prefixes).

Discussion and reflection

It seemed that students in the above discussion functioned at Biggs' relational level of thinking (Biggs, 2003, p. 3), whilst using their mother tongue to understand concepts. S5 discussed the relationship between “mesosystem” and “microsystem”. According to

Biggs' SOLO taxonomy (2003) the "relational level of thinking" is characterised by task verbs such as, "explain causes, apply, relate". In the above discussion, the task verb was "relate" and students related the two concepts "mesosystem" and "microsystem", thus functioning at the "relational level" (Biggs, 1999, pp. 7-8).

At another level, S5 also reflected on the two concepts described in the above discussion. In her opening remarks she commented that she would discuss "mesosystem" from "her own opinion".

S5: Nna ge ke lebeletše mesosystem, e interacta le microsystem.

In my opinion, when looking at the interaction between mesosystem and microsystem,

If ngwana ka hae a sa humane supporto, a sa humane supporto ka hae, then ha a fitha sekoloni, o khumana support mo skoloni,

If a child does not get supported at home, and finds support at school,

Ke hore o bona experience ye e sa swanego le ya ka hae.

S/he finds a different experience from the one at home.

It appeared to me that S5 was also reflecting on the concepts. This may be regarded as a "metacognitive level of thinking", identified by task verbs such as "reflect, theorise, generalize, hypothesize" (Biggs, 2003, p. 3). S5 reflected on concepts using his "opinion". In this way S5 was able to synthesise ideas raised by the concepts. This synthesis of ideas can be seen below:

If ngwana ka gae a sa humane supporto, a sa humane supporto ka hae, then ha a fihla sekoloni, o khumana support mo skoloni,

If a child does not get supported at home, and finds support at school,

Ke hore o bona experience ye e sa swanego le ya ka hae.

S/he finds a different experience from the one at home.

I also observed that the selection of Cummins' B quadrant assisted students to use informal language that support their learning (Cummins, 1996, p. 58). In quadrant B, students' tasks are "context embedded" and assisted by peers' "actions with eyes and hands, instant feedback, cues, and clues to support verbal language" (Baker, 1993, p. 11). On the other hand, quadrant B is "cognitively demanding" in terms of the academic language used, because learners engage in "intense intellectual discussion" (Cummins, 1996, p. 59). Education concepts were intellectually challenging but students' mother tongue facilitated the discussions. Sepedi allowed them to contextualize the Education concepts and general terminology within their own language structure. In doing so, the students experienced the comfort necessary for meaningful learning. Students related

the contextualized concepts to their previous experiences and they were able to reach understanding.

I also noted that in the research context, students were more comfortable when they assisted each other rather than through the course lecturers/tutors. Therefore the students brought with them what they were able to do on their own “actual level of development”. I observed students dispelling misconceptions and attaining better understanding of concepts. It appeared therefore, that students were approaching their “potential level of development” through the help of “more knowledgeable others” – their peers (Vygotsky, 1978, as cited in Bennett & Dunne, p. 53). All the students during the pilot and main studies became the “more knowledgeable” at one point or other during each group discussion. No one student knew all aspects of the work more than the others in any of the discussions. Instead, students shared valuable information among themselves to build understanding of the concepts.

The use of Sepedi morphology in the formation of English technical terms used for Education concepts in Sepedi, including borrowed English and/or Afrikaans words in Sepedi, facilitated the discussions. I observed the comfort and ease of communication as students identified with all concepts and words used during the discussion. The students began to see education as part of their milieu as they used exploratory talk in a language format of their own in order to access otherwise challenging Education concepts. In fact some students articulated their experience of the discussions as interesting and enjoyable both in the pilot and main studies.

Examples can be found in students’ reflective reports in the pilot study data analysis Chapter 5, Section 5.3. Examples can be seen in the main study - excerpts of parts of sections of reflective reports documented by S5 and S8 respectively.

S5: Today I enjoyed the discussion of the Bronfenner’s theory, and I wish I could do Bronfenner’s again. I feel like I improved my understand based on Bronfenners..... (17/03/2011).

S8: ... I enjoyed this discussion because it got to interrelate with other students and share some ideas and get some clarity about things that were difficult for me to understand...” (15/04/2011)

I also observed that S5, above, used a Setlokwa dialect (Sepedi dialect), which is understood by peers in the above example. Words like “hae” (home), instead of “gae”, “fitha” (arrive) instead of “fihla”. This was a further indication that the research

contexts allowed students to learn in a linguistically free context aimed at deepening understanding of academic concepts. The freedom to use an informal familiar language in all its varieties facilitated learning in the case study.

The above students' reflections indicated to me that the sessions were not only educative but they also had affective aspects. Students found the sessions enjoyable. When students find learning enjoyable, they are more likely to learn meaningfully and reach better understanding of learning content.

Figure 8: Sepedi Noun Class Prefixes

Noun class No.	Noun class Prefix	Singular/Plural	Examples: Singular/Plural
1.	Mo-	Singular	Mosadi (woman)
1(a)	-	Singular	Koko (grandmother)
2.	Ba-	Plural	Basadi (women)
2(a)	Bo-	Plural	Bokoko (grandmothers)
3.	Mo-	Singular	Motse (village)
4.	Me-	Plural	Metse (villages)
5.	Le-	Singular	Legapu (watermelon)
6.	Ma-	Plural	Magapu (watermelons)
7.	Se-	Singular	Seta (shoe)
8.	Di-	Plural	Dieta (shoes)
9.	N-	Singular	Nku (sheep)
10.	Di-	Plural	Dinku (many sheep)
14.	Bo-	Singular	Borokgo (trousers)
15.	Go	Singular	Go ja (to eat)
16.	Fa-	Fase/down	Fase (below/down) 'used as locative noun'
17.	Go-	Godimo/up	Godimo (up) 'used as locative noun'
18.	Mo-	Morago/back	Morago (back) 'used as locative noun'

(Adapted from Lombard, van Wyk & Mokgokong, 1993, p. 30)

6.2.5 Peer support – Latecomer's context

In this section I analyse and share the experiences of S8 who registered two weeks after university had reopened in 2011. I observed that peers were able to extend themselves in order to accommodate a student.

In section 6.2.3 above I analyzed how students agreed to follow a request made by S2 on how the discussion should be conducted. Each student was required to provide their understanding of each of the four “nested systems” postulated in “Bronfenbrenner's

model of child development” (Bronfenbrenner, 1977, as cited in Donald et al., 2009, pp. 40-43). Students agreed and discussion followed S2’s request where students took turns without being called upon. One of the students (S8) a latecomer, sat quietly without participating. Other students observed his silence and S1 called his name and asked him to take a turn. S8 then responded, but his response showed that he had problems:

S8: Eish nna Eish nna di a mpetha.
Eish, I Eish, I find this work difficult. (Eish – (the problem I have is huge but actually do not know where to begin to relate my problem).

S8’s response indicated that he had no knowledge of any of the systems students discussed. He explained that he did not know what the other students had discussed.

S8: Mmm...(yes in a low voice). Ke gore a ke tlhaloganye gore eish gore le tla kae.
Mmm...That means I do not understand eish how far you are (with the work)

All attention then turned towards S8. S1 took it upon herself to ask S8 to listen to the contributions that students made about the concepts. He should then repeat the information to show that he had understood. S8 agreed.

S1: Ga go na bothata, and then ke tla kgopela gore o re theeletše.
There is no problem, and I will request you to listen

and then ka ge re tlhalosa gore mafelelong ebe wena o tlogo re hlalosešša dilo tše go bontšha gore o kwešišitše.
We will explain and then expect you to do the explanations at the end, in order to show that you understood.

gore re se ke ra go šia ka ntle..
so that we should not leave you behind.
(Literal meaning of “kantle”: outside, in this context as they are a group and thus each one of them is inside the group, if left out the person is regarded as being outside).

S8: mmm...
Yes...

After the above request, S8 agreed to carry out this request. Then S1 made another undertaking that all students should make their contributions about the concept in order to help S8.

S1: Ka gore if ga o kwešiši hape re tla hlalosa until ka baka la gore re nyaka gore kamokana ga rena ... and then S3 ge S8 are yena ga a kwešiša goba o tlele llata. S3 o ka tšwela pele?
Because if you don’t understand, we will repeat our explanations because we want that all of us ... and then S3 if S8, says he doesn’t understand or he registered late, S3 can you continue (the discussion)?

Students showed commitment to the decision taken in the group. It appeared that students wanted to maintain group cooperation. S8 was to listen whilst the rest of the students explained the concepts. Thereafter S2 would call on S8 to make his contribution as they expected him to have been listening to the discussion.

S2: So ka ge S8 a rile yena ga a kwešiše, kgapele, pele re feta, be ke kgopela go botšiša S8 go na le ntho o e kwilego like ele gore e dirile difference?

As S8 before declared that he does not understand, I wish to find out if S8 has found something he heard or that made a difference? (a difference to his understanding of concept discussed).

After the above request by S2 to give S8 an opportunity to make a contribution to the discussion, S8 still had difficulty with the concept of “microsystem”.

S8: yah ...because sometimes go na le dilo tše dingwe tše elego gore ba di hlaloša ka English, o hwetše ele gore wena ka noši ga o di sware neh. But ge ba tlogo hlalošetša ka Sepedi,yah..

Yah... because sometimes there are things that are explained in English and you find that you cannot understand, you see. But if they explain in Sepedi, yah..

Some student: mmm..;

Yes (in agreement to S8's statement above)

S8: O kgona go kwešiša gore ntho ye e bolela ka microsystem.

You are able to understand that something relates to microsystem...

e bolela ka nt ... sometimes ntho ge ba go hlalošetša ka English, yah o ikhutša ya o ikhutša eng ... ele ka mokgo.

it says ... sometimes if something is explained in English, yah you just rest, yes you just rest what whilst it is like this.

Nou le e hlaloša ka Sepedi, yah..ya.. ke kgono swara..

Now you (group) explain it in Sepedi, yah, ya.. I am able to understand it.

Ga le bolela ka micro..?

Are you talking about micro...?

S8's response showed that he was still struggling with the concept. Instead of providing an explanation of “microsystem”, he explained about the difficulties he had when the content was explained in English rather than in Sepedi. He continued to make mistakes about concepts discussed and the group continued to support him.

For instance, peers discussed another system “mesosystem” and S8 showed he understood. His response demonstrated how peers agreed with him and supported him:

S8: Nna ka mo ke e kwešišitšego ke gore maybe ngwana ge a na le mathata ka gae, then ge a interacta le bana ba bangwe ko sekolong, goba mathitšhere, dichomi ko ntle, then ba mo laetša support..

I understood it as for an example, if a child has problems at home, then if he interacts with other children at school, or teachers, or friends outside, then they all show him support...

Others say: Yah
Yah (yes, in agreement).

In the above example peers continued to be accommodative of S8's mistakes and in this way gave him another opportunity to succeed. Thus he was able to show understanding of the concept of "mesosystem".

Discussion and reflection

The above discussion highlights the importance of group collaboration and sharing a culture. The students' mother tongue continued to act as a valuable resource. The latecomer's problem was shared by the group. They included him in the discussions and supported him until he was also able to contribute meaningfully. Therefore it appears that peers sharing a culture and language are likely to support and include more challenged peers in learning contexts. The students were not prepared to leave S8 behind. They repeated the concept "microsystem" for the benefit of S8.

I also observed that S8's mistakes were accepted amicably and S8 also appeared comfortable making mistakes in front of his peers, concurring with Dennett (2001, p. 106) that making mistakes is the "secret of success". Mistakes should be encouraged because it will serve as an opportunity to correct the mistakes and in this way facilitate learning and deeper understanding. What should be avoided is making fatal mistakes, those you will not be able to recover from. Dennett further maintains that "the secret is knowing when and how to make mistakes, so that nobody gets hurt" (2001, p. 109).

6.3 Description of individual interview transcripts

In this section, I analyse and reflect on some selected sections of the transcripts of individual interviews conducted with students prior to the weekly one hour Sepedi group discussions and those at the end of the main study. Interviews further illuminated

data collected during the observation of group discussions. Use of multiple strategies for collecting data is favoured in qualitative research which I did in both the pilot and main studies. Such data helps to enhance research reliability.

Out of three sets of individual interviews designed for the research, I conducted the first and second interviews only during the pilot study. (The three sets of interview schedules designed for research in the pilot study methodology, are found in Chapter 3 Section 3.5, subsection 3.5.1). I did not conduct final individual interviews with students as they refused to participate in these interviews as they were preparing for final examinations. In the main study I conducted the first and the final interview sessions and I omitted the second interview session, which took place in the pilot study. (See the interview schedules used in main study, Chapter 4, Section 4.6, subsection 4.6.1). During the pilot study there were no remarkable differences between the data collected during the first and second interview sessions.

Nine students participated in the first individual interview session during the main study. The tenth student did not avail himself for the interview and I did not question his decision. According to ethics procedure, participants may decide to withdraw their participation if they so wish. I therefore respected his decision. I gave students the choice of conducting their interviews either in English or Sepedi. After the interviews were conducted I realised that some students struggled to express themselves well in English. All nine students chose to use English except for one student who switched to Sepedi midway through the interview. The student experienced difficulty in expressing all his thoughts clearly and switched to mother tongue. I think that some students chose to use English to affirm their status as university students. Baker (1993a, p. 77) states that some students use code-switching to “express group identity and status”. I think some students used English during the interviews for a similar purpose.

My aim for conducting the interviews during both the pilot study and the main study was to investigate the following:

- Challenges faced by English second language students in learning academic courses at institutions of higher learning. I used Education Studies as an example of a theoretical course.
- Students’ own purposes for using code-switching during their learning.

- Whether students' Sepedi discussions would increase participation in normal Education classrooms.
- The impact of this research on students' learning and understanding of theoretical concepts.

The following categories emerged from the individual interviews:

- 6.3.1 Challenges associated with understanding through English as LoLT
- 6.3.2 Code-switching promoted understanding
- 6.3.3 Mother tongue discussions increased participation in the normal education classrooms

These aspects will be analysed, discussed and reflected on in section below.

6.3.1 Challenges associated with English as LoLT

In this section, I analyse challenges associated with English as LoLT. I also reflect on challenges associated with the use of English as LoLT, as articulated by students in this section. Challenges associated with the use of English in learning emerged during students' individual interviews - a category which also emerged in the pilot study. (See the pilot study, Section 5.3.1 for a similar response.)

Examples can be found below in parts of S10's first individual interview response. Here S10 was responding to her major challenge about learning Education Studies:

S10: ...the reason is because of the language English, that's the reason because I went to writing centre when I'm doing my Education Psychology, so that lady asked me like I wrote like English then I just messed up things and looked at the dictionary and she asked me why don't you understand this concepts, kare (I said) just because of nna (I) I am not used to this ke gore (that is) I am not used to English people, ke gore (that is) my teacher at school when I am looking to this words she would transfer them to Sepedi so that I can understand them so now I'm at varsity I must get used to this so I found it to be difficult to me...".

The above example shows how S10 found difficulty in learning through English. She also cited an important aspect – that at school her teacher was able to give her a Sepedi meaning for difficult English concepts.

In another example which took place during the first individual interviews, S8 also responded to his major challenge concerning learning Education Studies:

S8: Yah it's a bit difficult for me you know like coz English is really difficult for me.

S8 also stated that English, which is the language of learning and teaching, was “really difficult” for him. The above statements concerned me. I wondered how students could access content knowledge at university if the language of learning and teaching was a challenge to the extent mentioned above. S10 could not be assisted even when she consulted the writing centre, established by the university to assist students with academic writing. S10 mentioned her frustration:

... I went to writing centre when I'm doing my Education Psychology, so that lady asked me like I wrote like English then I just messed up things...

S10 tried to write in English in the writing centre and she “just messed up things”. The response was an indication of the seriousness of her challenge in this regard.

Discussion and reflection

The above examples indicate how some English second language students are linguistically challenged in their learning contexts and the frustrations they experience. The research study was conducted bearing such frustrations in mind. I hoped that this intervention would be of assistance to the students.

Section 21 of the South African Language Policy for Higher Education (2002) emphasizes the “development, in the medium to long-term, of South African languages as medium of instruction in higher education, alongside English and Afrikaans” (DoE, 2002, p. 15). The recognition of the linguistic barriers experienced in most educational contexts where either Afrikaans or English is used as LoLT, suggests that tertiary institutions need to create opportunities to promote the use of all official languages. Currently most indigenous African languages have not yet been sufficiently developed to the level of use in academic contexts.

The students' responses above strongly suggest that their learning is hampered by the language of teaching and learning. This is in contravention of Section 15(3) of the Language Policy for Higher Education (2002, p. 10), which explains that “language

should not act as a barrier to equity of access and success”. The students’ responses indicated that their success was hindered by the use of English as LoLT.

It is hoped that the informal discussions of Education concepts through Sepedi, (one of the official languages) could provide an interim response to the challenges that English second language students face in some institutions.

6.3.2 Code-switching promoted understanding

What follows is an analysis of transcripts of individual interviews and how they revealed how code-switching promoted understanding. I also reflect on students’ responses. The purpose of this section was to observe students’ own reasons for using code-switching during their learning.

This concept could be found where S1 commented that code-switching promoted understanding of concepts during Education Studies group discussions.

S1: Code-switching ehh has helped me so much because if I don’t understand something in English and then I code switch, and then I’m sitting next to...let’s say one of my group Sepedi member, like if we discuss it over like using Sepedi language, it becomes for me to understand and get what the lecturer is saying, and then I will go back to English and try to look for words and combine them, using my translating from what Sepedi to English so it becomes easy, you discuss firstly in your language, and then translate it, you just come with your English and then translate and then that is how...

Another example occurs where S5 again expressed that code-switching assisted him in understanding some “words” (concepts), which he had misunderstood when studying alone.

S5: It helped me a lot because when we were code-switching some other words, it made you to realize what...if maybe the word that you... understand it in another wrong way, so when you are code-switching it, when you are around people they can tell you that no, this word you didn’t understand it well, this word means this...

Discussion and reflection

The above examples stress the importance of code-switching for understanding. It also appeared that code-switching may be helpful in many learning environments for the promotion of learning and understanding.

Code-switching is regarded as a process where individuals switch between two languages “within one conversation” (Myers-Scotton, 1993a, p.1). Therefore, it is clear that individuals code switch because they can speak more than one language. During code-switching individuals also tend to use one specific language more than the other(s). Myers-Scotton (1993a, p. 3) affirms too that “code-switching is the selection by bilinguals or multilinguals of forms from an embedded variety (or varieties) in utterances of a matrix variety during the same conversation”. The “matrix language” is the main language used for communication and the other language which is used to a lesser extent is referred to as “embedded language” (Myers-Scotton, 1993a, p. 3). In this study, as well as the pilot study, students used Sepedi as the main language and English to a lesser degree. See Section 5.2.1 above and observe how Sepedi was used as the “matrix language” and English used as “embedded language” of communication during the Sepedi discussions of Education concepts (Myers-Scotton, 1993a, p. 3).

Sepedi as main language assisted students to understand the Education concepts. Students discussed concepts through informal, everyday language, which facilitated understanding of challenging Education concepts. On the other hand, English was used especially where Sepedi lacked technical terms for the Education concepts. (Refer to Section 6.2.1.1, subsection (a) above where English technical terms were used for Education concepts.)

The research also indicated that students mixed mainly two languages, Sepedi and English, during the discussions. During Education Studies group discussions in some tutorials, students also mixed Sepedi and English. This possibly suggests a need to promote bilingual programmes. Baker (1993, 2006), Hakuta (1990), Lindholm (1990), and Diaz and Klinger (1998) prefer bilingual programmes where LoLT is another language other than students’ mother tongue, to promote learning. Such programmes could be used for interim purposes whilst programmes to develop the home language to a level of language of learning and teaching could be introduced alongside these. According to Baker (2006, p. 288), “academic empirical research supports strong forms of bilingual education where home language is cultivated”.

6.3.3 Mother tongue discussions increased participation in the normal education lectures/tutorials

In this section I analyse individual interview transcripts where students indicated that engagement in mother tongue, Sepedi, discussions of Education concepts improved their participation in Education lectures and/or tutorials. Improvements in students' participation appeared to deepen understanding of Education concepts. Students were asked to rate their participation in Education tutorials/lectures prior to the research study and at the end of the study. The aim was to observe whether the research, where students used mother tongue, improved the participation of students in Education classes, where English is the language of learning and teaching.

The table below illustrates students' participation ratings and reasons in education classes before and after the research study. Students were asked to give individual ratings and reasons for participation in education classes before and after discussions (Italics are used to emphasize emerging categories):

Table 8: Students' ratings of their participation in education lectures/tutorials before and after Sepedi group discussions (Main Study)

Student Pseudo-nyms	Participation rating in tutorials: Before research Study	Reasons for rating supplied: Before research study	Participation rating in tutorials: After research study	Reasons for rating supplied: After research study
S1	8	... even at high school I used to participate because this is my ... <i>this is the strategy that I use to learn</i> because if I involve... if I engage myself into a lesson, it's not easy for me to forget so I always participate...	8	Because now ehh in the tutorials <i>I'm able to participate, thinking about the discussions I had with my peers, same ehh language speakers Sepedi</i> , which is Sepedi, and then when I think about those examples so I just raise my hand and then interact..."
S2	4	... ehh education level ya mo (here) is it changed to what I am used to, <i>I'm still adapting to the level ya gore</i> (that) when someone tells me to do this in class ke arabe (I should respond) so then it is difficult for me that's why <i>I need to adjust</i> and ask if I need to ask...	5	They (Sepedi discussions) were really good because like I said before, I started to understand and see things in a different way. So they really influenced me. <i>They (Sepedi discussion) really helped me to interact with the tutor</i> . To hear what she is saying. Rating 5.

S3	3	<i>I am shy. (reason) It's just the way I am.</i>	5	<i>Because I was getting used to interacting with other students because of the group discussion I had in the research, where we discussed about Education in Sepedi.</i>
S4	5	<i>As I did say at first, I was feeling nervous so I had to adapt on the situation.</i>	6	<i>As I can say, I was not used to answer questions in the tutorial, so for now then I do answer questions and listen and debate on the class and do presentations.</i>
S5	4	<i>... most of the times those people (lecturers and tutors) are English people and I am not used to talk to those people so when I talking to those people . I start to be scared first and then when I ask questions they would ask me back questions so I can't answer them because I am thinking about my language"</i>	7	<i>... I think I was doing great because I knew what I was talking about because I've already discuss it in my group with my peers in our research so when I was in the tutorials I was just expressing myself because I know what I was talking about because it helped us.</i>
S6	5	<i>I was still adjusting ja to the place ... to the environment. Also the English, the language was difficult to me.</i>	6	<i>Ja I think the session was very good because it helps me to add on what I already know like from the other tutors because even tutorials and lectures it is difficult to understand them, the language they said and the terms. But then the use of Sepedi and use of terms was helping me to understand.</i>
S7	2	<i>Why? at the beginning, I felt lost ...because I couldn't expect ... I didn't know anything about university ...I was afraid of asking the questions, but I become interest, yah...</i>	8	<i>Since I attended the sessions now I can do understand more concepts in Education. I can participate like where ... in tutorial ... I can give myself 8 over 10.</i>
S8	3	<i>coz I am still trying to find my feet actually I am still trying like feeding coz mostly, most of them they are like ahead like I don't have those notes like I am still trying like yah I still trying to settle in.</i>	6	<i>... I was not engaging you know with the tutor at class, group participation I was always quiet in class but after I have done this thing my participation level has... even my you know, my confidence in class has... what can I say (whispering) Yah, yah, it (discussion) has pick up you know, it has improved very well because now I can participate in class, I can engage with other learners as well the tutor.</i>
S10	6	<i>I try by all means to participate in class, and wherever I don't understand I try by all means to ask questions and get help wherever possible.</i>	7	<i>Because ehh when you are discussing with your peers you gain more confident and you <u>can take whatever you've gained further.</u></i>

The above table indicates lower ratings in students' participation in Education lectures/tutorials prior to the research study compared to the ratings at the end of the research except for one student, S1. S1's rating is similar in both interview sessions, even though she also, like her peers, observed improvement in her participation in Education classes after discussion in the research study. Two of the ratings are also above average - a rating of six out of ten. Different reasons were given for the low and above average ratings, some of which did not necessarily respond to the aim and research questions of the study. Nevertheless the data could inform future practices at the University of the Witwatersrand.

- Still adjusting to a new university environment (six respondents – with a rating of between 3 and 5)
- She is naturally shy and thus low participation rating (one respondent – with a rating of 3)
- Participation is used as a learning strategy (two respondents – with a rating of 6)

Six of the nine students who participated in the interviews indicated that the low participation ratings recorded prior to the research were due to adjustments to the challenges in the new university environment. (Refer to students' participation ratings and reasons given by S2, S4, S5, S7, S8 in Table 8 above.)

Six students found the university environment alien and they needed to adjust and feel comfortable before they could engage fruitfully in learning processes.

One of the students during the interview cited that she was “shy” and therefore gave a low rating for her participation in Education classes.

S3: I am shy. (reason) It's just the way I am.

I also observed that S3 was initially quiet during the Sepedi discussions of Education concepts. When she spoke, she did so with her face down. As students continued with the Sepedi discussions, I observed a change in her participation. She seemed deep in thought but not focused on the group.

Two students during the interviews commented that participation acted as a learning strategy for them because it assisted them to understand learning content. An example of this is where S1 cited that participation has always been her learning strategy:

S1: ... even at high school I used to participate because this is my... this is the strategy that I use to learn because if I involve ... if I engage myself into a lesson, it's not easy for me to forget so I always participate...

I realised that S1 had discovered how she learned best as far back as her high school years. It appeared that S1 operated at a higher order of thinking during this discussion as she began to understand her own learning styles.

After the research all nine students who participated in the interviews mentioned that participation in the Sepedi discussions of Education concepts improved their participation in the Education lectures/tutorials. This level of thinking is what Biggs refers to as the “metacognitive level” where learners “theorize about their learning experiences” (1999, pp. 7-8). S1, above, constructs new meaning about her learning practice.

Discussion and reflection

The data above indicates that students' use of their language, Sepedi, encouraged them to talk about Education concepts. It also motivated them to engage in higher order thinking skills. The talk was further facilitated by students' similar linguistic cues and culturally enhanced communication habits. Students reached understanding of concepts and were motivated to learn more. From the data that emerged, students transferred participation skills acquired during Sepedi small group discussions to the formal Education classrooms. I observed amongst others the following skills that emerged during Sepedi discussions:

- Students familiarised themselves with Education course concepts by sharing individual understandings from different tutorials;
- They posed questions where they needed clarification;
- They argued constructively where there were differences and reached conclusions;

- They applied content to previous experiences;
- They listened carefully to the contributions of others and responded
- They respected the contributions of others;
- They improved in speaking in public – even shy students midway through the research showed improvement in their participation in the group discussion.
- They took turns that were culturally oriented and respected the cultural ethos.

The examples of students' contributions that indicated the Sepedi discussions assisted them to talk about Education concepts are found in Section 6.2.1.2, above.

I realised from the interviews that one cannot assume that all students who complete high school are ready for a university environment. The data indicated that six students out of nine struggled with adjustments to this environment. It then appeared that it is not enough to assume that orientation programmes conducted for all new entrants at the University of the Witwatersrand at the beginning of each new year alleviated students' adjustment challenges to the university environment. It made me realise that adjustment to such an environment may also be influenced by a variety of reasons. Students' rural backgrounds could have been one such reason. Sadly, I realised too that success at university could be hindered by a variety of reasons. Whilst some students may be progressing or succeeding, some students may be regressing in terms of their studies. I reflected on the seriousness of this situation and about how students may be assumed to be receiving equal education experiences whereas in essence it does not happen. To me this means inequality in education access and success remains a societal and linguistic problem that needs to be addressed in the South African educational system.

I also think that some students are introverts whilst others are extroverts. The research indicated a number of suggestions:

- In the interim, practitioners should be encouraged to follow culturally oriented communication habits in classrooms. Practitioners need to know the background context and communication habits of students and use these to assist student learning.
- Thinking tools should be taught in classrooms. I think that the main aim of students at institutions of higher learning is to learn to think. Thinking, on the other hand, cannot happen in a vacuum. Thinking skills could be taught in order

to engage the thinking processes. One basic tool that all students entering institutions of higher learning possess is their mother tongue. The contradiction exists where the language of learning and teaching is not the mother tongue of students. This scenario is common for many English and/or Afrikaans second language students entering universities in South Africa.

- Where students' mother tongue is not the language of learning and teaching, practitioners could create "safe spaces" where students are supported and included in discussions through their mother tongues.

6.4 Description of Students' reflections

In the following section I analyze some selected sections of students' reflections documented during the main study. I requested students to write reflections at the end of each of the eight hours of Sepedi group discussions of Education concepts. During the pilot study preceding the main study, I randomly requested students to document their reflections on group discussions. I missed valuable information due to scanty and randomly documented students' reflections. In the main study I decided to capture students' reflections of all the eight hours of discussion.

Students' reflections helped to illuminate data collected during research group discussions and individual interviews. The use of a variety of strategies to collect data is favoured in research. These reflections gave valuable responses for research aims and questions.

The following categories emerged from the individual reflections based on the different aims:

- 6.4.1 Mother tongue discussions promoted understanding
- 6.4.2 Discussion promoted sharing of ideas
- 6.4.3 Sepedi discussions promoted participation in Education lectures/tutorials
- 6.4.4 Discussions were associated with freedom and enjoyment
- 6.4.5 Discussions promoted social and communication skills
- 6.4.6 Discussions prepared for tests and/or examinations
- 6.4.7 Discussions improved the status of Sepedi

Italics will be used to emphasize the occurrence of the abovementioned categories in the analysis when necessary.

6.4.1 Mother tongue discussions promoted understanding

In this section, I analyze and reflect on students' written reflections. These reflections indicated that Sepedi discussions of Education Studies concepts promoted understanding.

S1's and S6's reflections are presented below, documented on 01/04/2011 and 13/04/2011 respectively:

S1: I found this discussion very helpful since we were using our own language "Sepedi" which I found it very easy to understand all the content so now I'm able to explain the Vygotsky learning theory.

S6: ... Using my language in the discussion helped me to understand different concepts clearly ...

Both students emphasized that use of mother tongue enhanced understanding of concepts. S1 made an observation that it was the use of Sepedi that made it "very easy to understand the content". These reflections made students stand back and think about the process and its value to their understanding of concepts. Students operated at a higher order level of thinking during these reflections. Both students related their understanding of concepts to the use of mother tongue, Sepedi. A relationship was created between two processes. In this way, students gained meaning from their actions.

Other similar examples, parts of S7's and S2's reflections were documented on 13/04/2011 and 15/04/2011 respectively:

S7: ... Some of the problems that I had, associated with this theory, I can now understand, almost all of them because we are using our mother tongue, Sepedi, to discuss.

S2: ... In my first days here I could not understand or get anything that had to do with Education studies, but coming to the sessions discussed in Sepedi I got the light.

Again both of the above students' reflections highlight the importance of using mother tongue in learning. It is remarkable that S1 "got the light" about education after the group discussions in Sepedi.

Discussion and reflection

After 1994, the new Constitution announced that “the official languages of the Republic are Sepedi, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga, Afrikaans, English, isiNdebele, isiXhosa and isiZulu” (Constitution of the Republic of South Africa, 1996, p. 4). In this manner, the previously disadvantaged African languages were included as languages that should enjoy equal status as English and Afrikaans in teaching and learning contexts. To pursue these aspirations further, Section 29(2) of the Bill of Rights (Constitution of the Republic of South Africa, 1996, p. 10) also declared that “everyone has the right to receive education in the official language or languages of their choice”. This implies that when students enter learning institutions, they can choose their language of preference.

The National Education Policy (Act 27 of 1996) declared the right “of every student to be instructed in the language of his or her choice where this is reasonably practicable” (National Education Policy, 1996, p. 4). This policy is in agreement with the Bill of Rights (Constitution of the Republic of South Africa, 1996) in giving individuals the freedom to make a choice of their preferred LoLT. The only weakness is that this policy statement gives power to institutions to weigh what is “reasonably practicable” for themselves. The latter may not be favourable in some circumstances for the student’s desired choice of language.

The University of the Witwatersrand, informed by the language policies in the country, also made a choice that would be “favourable” under current linguistic contexts. Most of the indigenous African languages have not yet been developed to be languages of learning and teaching in most institutions of higher learning. The University of the Witwatersrand currently offers English, Afrikaans and IsiZulu as majors. On the other hand, it also offers Afrikaans, Sepedi and Sesotho as Second Additional languages. The status quo carries hidden messages for many English/Afrikaans second language students. The notion that African languages are inferior and not worthy of development especially where English and/or Afrikaans have and still are languages of learning and teaching in most learning contexts is highlighted.

This research, conducted at the University of the Witwatersrand is an endeavour to offer an interim solution to the plight of many English second language students who face linguistic challenges.

The students' reflections are a further indication that group discussions are located appropriately in Cummins' "B quadrant" where communication supports learners, termed "context embedded communication" (Baker, 1993, p. 139). On the other hand, learners engaged with challenging education concepts, argued as "cognitively demanding" (Baker, 1993, p. 11). S1 admitted that use of mother tongue was helpful during the research in sections of her reflections documented on 15/03/2011.

S1: ... It was very clear because we discussed this theory in our home language which is Sepedi...

S1 reflected on the fact that the mother tongue facilitated understanding of Education Studies content knowledge. During the discussions students shared a common language, Sepedi, that offered them sufficient help in terms of for instance, "actions with eyes and hands, instant feedback, cues, and clues to support verbal language" (Baker, 1993, p. 11). In these ways, they were able to communicate with ease.

The reflections also indicated the levels of thinking of individual and/or group of students' reflections in terms of Biggs' SOLO taxonomy (2003). In the above examples S7 and S2 reflected on their individual learning capacities before their participation in the study. Biggs (2003, p. 3) considers the ability to reflect the highest level of thinking. The "metacognitive thinking level" was recognized by task verbs like "reflect, theorize, generalize, hypothesize". Students "reflected" as they documented their experiences of each discussion session.

6.4.2 Discussion promoted sharing of ideas

In this section I analyze and reflect on students' reflections of Sepedi group discussions of Education concepts, where students indicated that discussions in groups promoted sharing of ideas.

Parts from reflections from S1 and S7 documented on 31/03/2011 and 01/04/2011 respectively.

S1: I have benefited from the group. We have discussed about Bronfenbrenner's nested system. We have tried to come with our own explanations and our examples which made me understand and master this nested theory...

S1 showed how she gained from the group discussions. Each of them contributed by means of “explanations and examples”. She finally understood and mastered Bronfenbrenner’s nested systems, (Bronfenbrenner, 1977 as cited in Donald, 2009, p. 41).

S7: For me today’s session was so awesome because I learnt so much compared to the other sessions that we did last time. My colleagues were coming up with some many ideas that I hope they helped me a lot to understand what is required when discussing the theories (of development/learning).

S7 also acknowledged the benefits of learning in groups. He admitted to the “help” he received from his peers as each contributed with ideas that assisted him to “understand ... the theories”. Another example, forming part of the reflections documented by S2 on 15/04/2011:

S2: ... With my colleague we learned a lot from each other...

Discussion and reflection

The above reflections indicated that students were able to share ideas amongst themselves as they worked in a group. Students used “own” explanations and examples to enhance understanding of Education concepts. Of importance was the sharing of ideas when people worked as a group mentioned in above reflections.

Through group discussion the students developed and shared meaning in collaboration with their peers. There were opportunities for collaborative learning. The idea is postulated by Vygotsky, “children construct shared meanings through their social interaction with such people as parents, peers, teachers and other mentors” (1978, as cited in Donald et al., 2009, p. 58). In this research, peers shared with each other and constructed meaning of Education concepts.

Sharing of ideas is vital in learning contexts. Ideas are shared in groups and initiate thinking at different cognitive levels in terms of Biggs’ SOLO taxonomy (2003). At this level task words such as “relate, apply, compare/contrast, explain causes, analyse and apply” are identified (Biggs, 2003, p. 3). S7 operated on Biggs’ “relational level” of thinking, as he compared his success in learning during current discussions compared to the previous (Biggs, 1999, pp. 7-8). On the other hand S7 also acknowledged the value of sharing as he benefited from peers’ ideas. O’Keefe (1995, p. 10) agrees that “sharing

thoughts in a discussion creates an enriched pool of information”. The thoughts expressed by the students above also tend to move to Biggs’ metacognitive level of thinking because at this level Biggs (2003, p. 3) identifies task words such as “reflect, generalize, hypothesize and theorise”. The students stood back and reflected on their discussions, therefore they operated on Biggs’ “metacognitive level” as they reflected on their discussions and reached conclusions.

6.4.3 Sepedi discussions promoted participation in Education lectures/tutorials

In this section, I analyze students’ reflections that indicated that Sepedi discussions of education concepts promoted participation in Education lectures and tutorials. I also reflect on students’ reflections in terms of apparent benefits for some English second language students learning at the University of the Witwatersrand, including similar contexts at other institutions of higher learning in South Africa. This category also emerged during students’ individual interviews.

Students’ reflections documented by S7 on 14/04/2011 and S8 on 13/04/2011 showed how discussions in this research context improved participation in Education lectures and tutorials.

S7: ... and I can see a big impact and the role it (*the Sepedi discussions*) plays in my studies with psychology and this session *has helped my participation in class* because I can easily relate to Piaget and his theory because I am now able to participate in class.

S7 found the discussions helpful because they assisted his participation in class which led to greater depth in understanding Piaget’s theory. It appears from S7’s comments, that participation in Sepedi discussions improved his participation in Education classes. The latter then improved his understanding of the Education Studies content.

S8: ... At the beginning of this research we were not able to participate in our tutorial venues but now we can...

S8’s reflection indicates the impact this intervention had on students’ engagement in their tutorials after the Sepedi discussions had taken place.

Discussion and reflection

In the “Zone of Proximal Development”, Vygotsky (1978, p. 86) recognizes the need for students’ participation that assists them to move from what they know and can do by themselves to what they will be able to do with the assistance of others. Both students indicated lower levels of participation before Sepedi discussions of Education concepts as compared to participation after these discussions. I particularly observed that S7’s participation was initially minimal during the first few Sepedi discussions and increased with subsequent discussions. Evidence can be sought from Table 8, where students rated and gave reasons for their participation in Education classes before and after the research. S7’s participation rating before the research was 3 and increased to 8 after the research. Reasons given for the increased rating are below:

S7: ... I was not engaging you know with the tutor at class, group participation I was always quiet in class but after I have done this thing (*Sepedi group discussions*) my participation level has ... now I can participate in class, I can engage with other learners as well as the tutor.

Therefore S7 experienced improvement in his participation in education tutorials after participation in Sepedi discussions. Thus S7’s “actual level of development”, which was his participation level without assistance, was lower. He was able to participate with the help of others to reach his “potential level of development” (Vygotsky, 1978, p. 86). Therefore the research study had a positive impact on students’ learning and participation in the education course.

6.4.4 Discussions were associated with freedom and enjoyment

In this section I analyze students’ reflections of Sepedi discussions of Education concepts where freedom and enjoyment were experienced in discussions. This category emerged also in students’ reflections of Sepedi group discussions during the pilot study. (See Chapter 5, Section 5.4.4 – 5.4.5 of pilot study data analysis.)

Examples could be found in the students’ reflections documented by S5 on 17/03/2011 and also those of S2.

S5: ... Today I enjoyed the discussion of the Bronfenner’s theory, and I wish I could do Bronfenner’s theory again. I feel like I improved my understand based on Bronfenners...

S5 declared her enjoyment of the above discussion session.

S2: ... I enjoyed interacting with other students in my first language. It helped me realize that I become more comfortable when I revise in my first language ...

Students also indicated that the special discussion group created for exploration of Education concepts through mother tongue was comfortable and made them feel that they could talk freely. Another example from parts of S2's reflections are below:

S2: ... we got to say whatever we understand about Bronfenbrenner's ecosystemic theory or perspective. We were free and confident in the discussions ...

S2 also experienced the freedom and confidence associated with discussions where peers share their understandings of course content through their language outside a formal context.

Discussion and reflection

S2 mentioned an important aspect of learning – that students must be actively involved in their learning in order to reach understanding.

In this research, students' mother tongue served as a resource that assisted them to talk and think about their content knowledge. Vygotsky (1978) also acknowledges "language as a key factor in the process of cognitive development" (Vygotsky, 1978, as cited in Donald et al., 2009, p. 58). Learners need language to think about learning content. In this research context, students shared knowledge with peers through their mother tongue and assisted each other to reach deeper understandings.

Discussions of education concepts held through students' mother tongue, Sepedi, made S2's experiences pleasurable as she "... enjoyed interacting with other students..." during the discussions. The importance of a comfortable space where students exercised a measure of freedom through their mother tongue in pursuit of knowledge became clear. Thus the relevance of Cummins' "B quadrant" to be selected for purposes of research became heightened (1996, p. 57). Learners used an informal everyday language that supported communication and thus was "context embedded" and they worked with "cognitively demanding" content knowledge (Baker, 1993). Students experienced enjoyment because they reached understanding of education concepts which were not

easily accessed during the English lectures and tutorials. These reflections emphasized the importance of discussing concepts through their mother tongue.

I found assertions made about the functions of language in this section valuable. Mercer et al. (1999, p. 2), acknowledge the work of Vygotsky (1962, originally 1934), where language is positioned within the “socio-cultural theory”, and argued to possess “integrated” functions:

- as a cognitive tool which children come to use to process knowledge,
- as a social or cultural tool for sharing knowledge amongst people, and
- as a pedagogic tool which one person can use to provide intellectual guidance to another.

In this research space, students came to use their mother tongue, Sepedi, to process knowledge. Students also shared their understanding of Education disciplinary concepts as peers in a group. On the other hand, each student acted as the “more knowledgeable other” at one point or another during the discussions, and assisted each other to reach understanding of concepts.

6.4.5 Discussions promoted social and communication skills

In this section I analyze and reflect on students’ reflections where discussions promoted social and communication skills. These included social skills and communication skills.

S4’s reflections indicated that Sepedi discussions of education concepts improved her social and communication skills. On the other hand, S5’s reflections indicated that the Sepedi discussions improved her listening skills.

S4: ... It helps me to improve my social skills and communication skills

The above excerpt indicated another group work strength. S4 reflected on skills that he developed as an individual as he worked with peers in the discussions. It appeared that S4 benefitted beyond ordinary understanding of Education concepts to developing other skills that will have a positive influence on his learning at the institution.

S5: ... We listen to each other, I think I have developed a lot.

S5 also indicated another group work strength - that of listening to each other. When students work in groups, practitioners always hope that students' listening skills will be heightened as peers explore content knowledge together. S5's reflections mentioned that peers listened "to each other", which is beneficial as discussions are deepened. It was also gratifying because this was one of the group rules discussed at the beginning of the research study. I also observed that this group rule was upheld in most discussion sessions.

Discussion and reflection

I observed that S4 was initially shy during group discussions and would speak with his face down and inaudibly. His hands were always clutched together, with the body language indicating shyness. In subsequent discussions I observed great improvement as S4 became comfortable and faced peers when speaking. He became more audible. Thus it appeared S7's "social skills", referred to above, meant that his ability to work with others in groups had improved. He also showed an ability to explore concepts, pose challenging questions where he disagreed with peers' understanding of concepts, and offer alternatives where needed.

In Section 6.2.2.3, I presented S7's challenge to students about their understanding of whether "mediation" or "language" was a process or a psychological tool:

S4: **Mediation tool?** ahh le a ntimetša jwale, a ke e tsebe ntho yewe **mediation tool?**
Mediation tool? Ahh you are misleading me now, I don't know that mediation tool?

S9: Ee **mediation is a psychological tool**, ke gore **mediation** ke (...)
Yes, mediation is a psychological tool, that means mediation is..

S8: ya mara o bolela nnete.
Yes you are correct.

S4: Hayi, e seng gore (...) gape a re kwane ka ntho e tee, akere poledišano e diragala gare ga mediation akere, so go ya ka kwešišo yaka, pelodišano ke yona psychological tool (...) e seng mediation.
No, not that ... let's agree on one thing, dialogue occurs during mediation isn't? So according to my understanding, dialogue is a psychological tool not mediation.

S9: Polelo ye, ke yona 'psychological tool? ke gore ke yona tool ewe.
Language is the psychological tool? Which means that is the tool (meaning that language is a psychological tool).

S4: Ee, e seng 'mediation, coz 'mediation' ka mokgwa woo ke kwelego ka gona bare ke process (...)

Yes not mediation, coz, from what I understand, mediation is a process (...)

S8: mmm (yes)

S4: so e ka se *be psychological tool*.

So, it can't be psychological tool.

S3 and S2 agreeing with S4.

In the above discussion S9 made an assertion that “mediation is a tool” for learning. However, S4 disagreed with this point of view and stated that “mediation is a process, not a tool”. According to Vygotsky’s Zone of Proximal Development Vygotsky, 1978 as cited in Donald et al., 2009, p. 59), mediation occurs “through proximal social interaction...”. Language plays an important role in the process of mediation. Vygotsky’s theory therefore supports S4’s statement that mediation is a process. I observed that students’ discussion of Education concepts was sophisticated and showed deep thinking. The students’ discussions led to a constructive conclusion. S4’s final comment that “mediation is not a tool” implied that it is a process. Other students reached a similar conclusion as seen by the responses of S8, S3 and S2, above.

S7 challenged students’ understanding of “mediation” and “language”, above, in terms of Vygotsky’s theory (Vygotsky, 1978, as cited in Donald, 2009, pp. 58-60). The challenge gave students an opportunity to listen attentively, argue constructively and finally reach a joint conclusion. In the course of this discussion, S7 continued to develop social and communication skills as he explored concepts collaboratively in the group.

6.4.6 Discussions prepared for tests and/or examinations

In this section I analyze and reflect on students’ reflections of the Sepedi group discussions, where students’ reflections indicated that the Sepedi discussions of Education concepts assisted them to prepare for tests and examinations in the course.

Examples were found in parts of S7’s reflections during a discussion conducted on 08/04/2011:

S7: ... If we can continue in what we are doing, we are going to pass Education studies psychology with distinctions!

The above reflection indicated S7's total belief that the Sepedi discussions had the potential to facilitate success in Education assessments. Belief that our Sepedi discussions led to learning success would breed success in Education assessments as students' motivation to learn would be heightened. This category emerged from S4's reflections of Sepedi discussions documented on 15/04/2011:

S4: ... The sessions helped me to balance my work, because I was using them as my studies. So the time for me to read my notes for test was less.

S4 used his time productively as he used the sessions as the first step towards preparation for tests and thus would finally use less time when tests were due. S5 also documented on 15/04/2011 that discussions prepared him for half yearly exams:

S4: From today's session I learnt to show the similarities and differences between our theorists, Piaget and Vygotsky and I am ready to write an exam (mid-year).

Students indicated from earlier in the study that discussions were also important for preparation of tests and examinations. In Week 6 S3 shared her thoughts about possible test questions on Vygotsky's theory of cognitive development:

S3: re...ba tlo expecta gore, oh ba tlo nyaka gore re dire, re hlaloše dilo.
We ... they will expect us to explain things

Ba ka se nyake gore re applaye... maybe baka no re fa casestudynyana e nnyane,; paragraphnyana ye nnyane; then re hlaloše dinconcepts tša Vygotsky gore o reng ka concept e so.
They will not expect us to apply... perhaps they can give us a brief case study, a short paragraph, then we can explain how Vygotsky sees his different concepts.

So, ka mediation ntho re e tsebang ke gore o re ke engi..ke ...eish..ke engine ya kgolo ya motho ka gore ga go na gore motho a ithute a sa šomišana le batho ba bangwe.
So we know that mediation is an engine for the development of a person because an individual cannot learn without collaboration with other people.

So go ra gore mediation ke concept ya mathomo re swanetšego gore re be sure gore re a e tseba.
So that means mediation is the first concept that we need to know for sure.

S3 showed sophisticated and deep thinking as she explored possible test questions on concepts discussed in the group. She constructed new meanings about concepts and shared with peers.

Discussion and reflection

From the above examples it was clear that students' regard for the discussions was positive. I thought that students would use the sessions to deepen understanding and think about the Education Studies content knowledge. I therefore thought that the sessions would be used only for developmental purposes and thus formative assessment. On the contrary, students also saw opportunities for examination and test preparation, which is summative. Nevertheless, I thought students saw the context as an extension of their formal Education lectures/tutorials and thus valuable contexts in their learning.

The language of discussion, Sepedi, made possible students' understanding of concepts that would enhance their results of summative assessments in Education. Group discussions of Education concepts in their mother tongue facilitated learners to operate on higher order levels of thinking about the process and its value for learning. S4 reached conclusions about his engagement in the discussions:

S4: ... and I am ready to write an exam (mid-year).

S4 was thus certain after weighing his ability to internalize the "similarities and differences between Piaget and Vygotsky's theories", that he would be ready for examinations. S4 gained certainty as a result of collaborative talk with groups of students who shared a similar language and culture. Students used their mother tongue to explore education concepts. Students engaged in exploratory talk where "talk knowledge is made more publicly accountable and reasoning is more visible in the talk" (Wegerif, Mercer & Dawes, 1999, p. 496).

These reflections, above, are deep and indicate that students used the "metacognitive level of thinking", where for instance S3 theorized and constructed possible test questions in the group (Biggs, 2003, p. 3).

6.4.7 Discussions improved the status of Sepedi

In this section I analyze and reflect on students' reflections of Sepedi group discussions, where students' reflections indicated that Sepedi discussions of Education concepts improved their respect for Sepedi as a language of learning.

Examples were found in parts of S2's and S8's reflections on Sepedi discussions conducted on 31/03/2011:

S2: ... From high school I never thought I will do Sepedi in the university level, which I concluded that it is useless. But I found myself in a group discussion about Education Studies being discussed in Sepedi. I actually learned a lot and see the importance of being multilingual.

S2's comments indicated the disrespect mother tongue speakers have for African languages. S2 regarded her language as "useless". S8 had similar reflections:

S8: What I have learned today was about constructivism and the behaviour of it as well as the stages of development being accommodation, adaptation, assimilation and equilibration in my mother tongue and got a clear understanding of Piaget and his theories. *And I came to university to find out that we use Sepedi of which I find useless at school when learning it and I found it very comfortable to share and engage with other students of my same level who clarified it for me.*

S8's previous experience of learning Sepedi was "useless". Both students' comments are very strong and very concerning for academics who regard the first language as a powerful resource in the promotion of learning.

Discussion and reflection

Section 21 of the Language Policy for Higher Education (2002, p. 15), emphasizes the "promotion of multilingualism" and the "development, in the medium to long-term, of South African languages as mediums of instruction in higher education, alongside English and Afrikaans" (Language Policy for Higher Education, 2002, p. 15). This statement indicates that African languages are not yet sufficiently developed as languages of learning and teaching.

Second language students, whose languages are still to be developed, become aware that their languages do not play a major role in their learning contexts. The comments of S2 and S8 describe such sentiments. They regarded their mother tongue, Sepedi - one of the indigenous African languages - as "useless" during their high school years. This is a very strong and undesirable statement from individuals about their mother tongue that carries their cultures, values, beliefs and dreams. The Language Policy for Higher Education (2002) also maintains the continued use of English and Afrikaans as languages of learning and teaching.

The Sepedi speaking students above have been taught through the medium of English from Grade 4. Their home language, Sepedi, has been taught as a subject alongside English as language of learning and teaching (LoLT). They have thus not experienced their home language as a language of power in education. They consider English as the language of power and of greater importance in their education, as it has dominated their schooling. English is thus equated with learning and usefulness. Block and Alexander (2003, p. 96) see this tendency as “deeply carved into the psyche of people who have bitter memories of an inferior early education being forced on them through the medium of their mother tongue under apartheid”. It is further observed by Matiki who “highlighted the negative attitudes that speakers have towards their indigenous languages in the face of an economically and politically powerful second language” (2009, p. 52).

The discussions of Education concepts through students’ mother tongue have assisted students to change their perceptions about their mother tongue. Students’ respect for the dignity of their mother tongue was instilled in the above instances. Consider parts of S2’s and S8’s comments:

S2: ... But I found myself in a group discussion about Education Studies being discussed in Sepedi. I actually learned a lot and see the importance of being multilingual.

S8: ... And I came to university to find out that we use Sepedi of which I find useless at school when learning it and I found it very comfortable to share and engage with other students...

The students’ comments indicate that students placed no value in the learning of their language. It appears that the teaching and learning of African languages needs special attention. It seems that African Language curriculum policies need to address African students’ perceptions, and deserves further research. Thereafter amendments to these policies may need to be added to improve the position of African language in learning contexts.

6.5 Conclusion

In this chapter I analyzed data drawn from multiple sources. The data included transcripts collected from observations of group discussions where Sepedi students discussed Education Studies concepts using mother tongue; transcripts of two sets of individual interviews, conducted prior and after students' Sepedi group discussions of Education Studies concepts; students' reflections on Sepedi group discussions; and field notes documented during the research.

The research data analysis indicated a number of practices that students engaged in when using mother tongue to discuss Education concepts. These ranged from code-alternation showing patterns of code-switching, code-mixing, code-borrowing and translation; exploratory talk, culturally oriented discourse habits, to the use of Sepedi morpho-syntactic structures. The impact of the study was also revealed in the analysis. The results benefitted students as individuals and as a group. The impact ranged from a deepening of understanding and learning, improvement in learning processes, the value of group work and engagement in higher order thinking. Finally and very importantly, students were able to change the negative perceptions they formerly held of their mother tongue, Sepedi, as the language of learning.

Education concepts were initially discussed in the Education Studies lectures and tutorials. Afterwards, a weekly hourly Sepedi group discussion was conducted. The main study was preceded by a pilot study, in which three sets of individual interviews were to be conducted before the Sepedi group discussions, midway through the discussions and at the end of the pilot study. I was able to conduct only the first two sets of interviews. Students did not participate in the third interview session because they were writing examinations. In the main study the second set of individual interviews conducted during the pilot study were omitted because the data collected during the pilot study showed that there was no remarkable difference between data from the first and second interviews. Therefore transcripts of the first and third sets of interviews were used for analysis in the main study. The pilot study assisted the research in that it led to a number of changes in the main study. (See Chapter 4, for main study methodology and Chapter 3, Section 3.9 for lessons learnt in pilot study.) These changes were effected in the main research study.

The analysis indicated similar categories in both the main and the pilot studies. There were also similarities in the categories observed in the Sepedi group discussions, individual interviews and students' reflections.

The research investigated mainly the kind of impact Sepedi discussions of Education concepts could have on first year Sepedi first language speakers at the University of the Witwatersrand. The research had impact on students' thinking in terms of how they explored Education concepts. They thought about their participation in the education classes; the way they used code-switching, mixing Sepedi and English, and how that impacts on their understanding of education concepts; the position of their mother tongue, Sepedi, in the pursuit for knowledge at institutions of higher learning in relation to their previous identity and the value of using mother tongue to deepen understanding alongside English whilst their languages are being developed.

I observed that students have accepted the status quo with regard to English being their adopted language of learning and teaching at the University of the Witwatersrand. The students' anguish and helplessness in respect to linguistic challenges was observed and felt throughout students' discussions and responses during the study. The English language and the content learned seemed to belong to another culture outside of themselves. They seemed to disassociate themselves from the learning process. Their aim was to complete their studies and become better people. There were no aims to continue being academics that pursue new knowledge. They wanted to complete this foreign experience that would open doors for them and make a difference to those left behind.

Students' lack of enthusiasm in terms of developing new Sepedi technical terms through translation for Education concepts was remarkable throughout both the pilot and main studies. They wanted to use English because "anyway exams are written in English". Thus new terminology was developed through the process of "transference" observed as a "strategy of borrowing a source item (English) into the target language ... without changing it..." (Ramani et al., 2007, p. 213).

When students worked with concepts they made use of examples from their immediate and personal environments. There were frustrations they kept unsaid and basic needs that they lacked that would prevent them thinking at the highest level of the taxonomy where they need to actualise themselves. Education was seen as the door to success - to

satisfy their basic needs. They needed to succeed. Thus they wished that we could do the research with other first year courses at the university. Those who had thought that their language was “useless” and “boring” began to see its value in the field of education.

They seemed satisfied that they had acquired the understanding of concepts – they could describe, compare and contrast and relate the concepts and, on occasions, construct new understandings.

In the next chapter I will discuss conclusions, recommendations, limitations and possible future areas of research study in terms of findings from analysis of data.

CHAPTER 7

CONCLUSIONS

7.1 Conclusions of research study

I conducted the research study for two months in 2010 and three months during 2011. I conducted a pilot study in 2010, followed by the main study in 2011. Both interventions took place on the premises of the University of the Witwatersrand's School of Education at Parktown Campus. I aimed to examine what impact a weekly one hour small group discussion of first year Education Studies concepts would have on a group of Sepedi home language students. Students used their first language, Sepedi, to discuss education concepts, whilst being aware that English was the adopted language of learning and teaching at Wits University.

I wished to identify, describe, analyze and reflect on the kinds of learning practices and challenges that would emerge when students used their mother tongue, Sepedi, as a resource for learning Education concepts. Finally, I investigated the benefits these informal group discussions would have on students' learning experiences and their perceptions of their mother tongue as a language of learning and teaching (LoLT).

I organized the group discussions to take place outside students' formal lectures and tutorial groups. By so doing I wanted to create a bridge between students' formal linguistic contexts and informal everyday linguistic contexts. In this way the research context would assist students "to make the transition from everyday vernacular languages to the specialist languages required by the University" (Granville & Dison, 2005, p. 100). This environment would also serve as a bridge between the students' new university culture and the culture they come with from their communities. Students would thus be "immersed in the 'new life' of the University". The research was also "designed to engage them in their immediate concerns and with the structural situation in which they find themselves" (Granville & Dison, 2005, p. 105). In both the pilot and the main studies students were situated in a "comfort zone" and "safe space" in terms of the language used as they could communicate in their first language, Sepedi. They

would enjoy the nonthreatening environment of freedom of expression amongst peers, an environment which is different to the formal environment of lectures and tutorials.

7.1.1 The role of Sepedi during discussions

The students' language, Sepedi, played various distinct roles throughout the study. These roles were facilitated by the "safe space" created for the research study. These roles served as responses to the impact this case study had on an informal group of first year students who discussed Education concepts through their first language, Sepedi. Consequently the impact revealed the kinds of learning practices that emerged during the study. English continues to be used as medium of instruction at Wits University and is an additional language for the research participants. The educational experiences of many African students are very difficult as students "must gain fluency in the conventions of English language academic discourses in order to understand their courses and successfully navigate their learning" (Hyland & Hamp-Lyons, 2002, p. 1).

7.1.1.1 Sepedi used as a linguistic bridge

The students' home language was used as a bridge between their informal everyday language, Sepedi and English, the students' additional language and university LoLT, English. Eight of the ten students who volunteered in the main case study were from rural backgrounds and working class families. Education lectures and tutorials were conducted in English and non-English students had to contend with a foreign language in order to learn and understand new Education concepts. Students in the research used Sepedi, their first language, which carries for them familiar linguistic cues, to talk about the Education Studies concepts. During these discussions, students were enabled through their language to traverse challenging concepts and reach deeper levels of understanding (see 6.2.1.2).

The research showed that when students are in an informal context, they can rid themselves of the formal discourses used in formal learning contexts and concentrate on the understanding of concepts. Students in this project rarely used formal constructions of Sepedi. For example, two students occasionally used their own dialect known as "Tlokwa", which was understandable to Sepedi speakers (see S5 in 6.2.4). S5 for

instance, used words like, “hae” (home) instead of “gae” (home); “sekoloni” (school) instead of “sekolong” (school). Students’ language was used in the format to which they are accustomed in their everyday social contexts (see 6.2.1.2). Therefore peers used cues familiar to the group in order to understand each other during the discussions. This supports Cummins’ contention that “context embedded communication is supported by interpersonal and contextual cues” (1996, p. 58). The group discussions supported students linguistically and solved challenges associated with the LoLT (see 6.3.1 and 6.4.1). Sepedi was used by students as a bridge between their everyday language, Sepedi, and English, the language of learning.

The research context appeared to free students from linguistic restrictions usually experienced in formal contexts, where they are expected to communicate in English. Students were able to mix Sepedi and English during the discussions despite the fact that they were required to use their mother tongue, Sepedi, to discuss Education concepts. Sepedi was used as the main language and English was the lesser (see 6.2.1). The interactions denoted the following code-alternation processes: code-switching, code-mixing, code-borrowing and code-translation. In complex sentences, English, which is an embedded language, occurred in the subordinate clause, whilst Sepedi, the matric language, occurred in the main clause. The main goal for students’ use of code-alternation was to enhance understanding and support each other as peers.

Students engaged mostly in intersentential code-switching (Myers-Scotton, 1993a, p. 3), “where speakers switch from one language to the other between sentences”; and intrasentential code-mixing, where speakers switch “within the same sentence or sentence fragment” (Myers-Scotton, 1993a, pp. 3-4). Intersentential code-switching was used mostly to “emphasize a point” or “to quote someone” (Baker, 1993, p. 77). (See 6.2.1.4) Intrasentential code-mixing was used where a word was not yet known in both languages (Baker, 1993, p. 77). (See 6.2.1.4) In this manner, new terminology was developed through a strategy that Ramani et al., (2007, p. 213) refers to as “transference” because it entails “borrowing a source language item (English) into the target language, ... without changing it ...). Students also mixed Sepedi and English for “ease and efficiency of expression” (Baker, 1993, p. 77). In this situation students avoided a struggle for words that would impede their thinking process (see 6.2.1.3). Students also regarded code-switching to promote understanding of education concepts (see 6.3.2).

Switches between languages were accepted as normal in the group discussions. Switches between Sepedi and English, were accepted by peers as discussions continued normally. Myers-Scotton (1992, as cited in Peires, 1994, p. 15) observes such code-switching as an “unmarked choice” which is code-switching that occurs normally and is regarded as code-switching that is expected by peers. Code-switching served to deepen students’ understanding of education content knowledge in this study in the following ways:

- To make expressions easy, flexible and efficient;
- To promote understanding of disciplinary content knowledge;
- To bridge the gap where the first language lacked the technical terms of Education Studies concepts;
- To emphasize a point or to quote directly from the texts;
- To demonstrate a habit cultivated by bilinguals or multilinguals.

The “matrix language (ML)” Sepedi imposed some of its morphological aspects on the “embedded language (EL)” English (Myers-Scotton, 1993a, p. 3). Education concepts were discussed using structural aspects from the mostly used language, Sepedi. For instance, Sepedi noun class prefixes were affixed to English technical terms used (see 6.2.4). Myers-Scotton confirms this notion: “the matrix language sets the morpho-syntactic frame of sentences showing the code-switching” (1993a, p. 3).

This study promotes bi/multilingual practices and showed the practicality of using Hornberger’s (2004, p.158) proposed a “continua model of literacy” where students in the discussion drew from both ends of the model and were able to report about the benefits of the discussions in their reflections. This research study did not favour one language over another and thus students developed understanding of concepts and improved their communication skills in both languages.

7.1.1.2 Sepedi used as an academic bridge

Sepedi served as a bridge between their previous world of home and school and the academic world of university. Students very often feel very anxious in an academic environment at first year level. Evidence indicating students’ academic challenges were drawn from students’ interview responses (see Table 8: students’ participation ratings

and reasons in Education classes before and after research study). University students need to familiarize themselves with academic culture if they wish to succeed in their studies. They need to familiarize themselves with the disciplinary discourses of all first year courses including Education Studies. They are required to read and write in these discourses. Speaking paves the way for the writing process as it assists in the conceptualization of content and clears past misunderstandings for both individual students and the group. Bourdieu, Passeron and de Saint as cited in Paxton (2007, p. 47), observe also that “Academic language is ... no one’s mother tongue, not even that of children of the cultivated classes”.

Spoken language and reading were mostly used in the case study as students discussed and occasionally read quotations from prescribed texts. Students appreciated the discussions as good preparation for the education tests and examinations, which mostly require written language (see 6.4.6). Thus Sepedi discussions served students’ university academic needs because clarification of the content knowledge preceded their writing process. Thus my data analysis indicated that discussions helped students to prepare for tests and examinations.

Sepedi has until now been used to think about academic concepts at this level. Therefore English was used in this study to communicate Education concepts. The study is a further indication of the reluctance of lecturers to use African indigenous languages for thinking about academic concepts at this level. I have indicated how students used English technical terms for Education concepts. (See 6.2.1.1 and 6.2.1.2) The facts that build these concepts were however communicated through Sepedi (see 6.2.1.2). For that reason, Sepedi served as a bridge between the students’ informal language of home and school and the academic language of university. Yafele (2009, p. 85) observed that “specialist or subject specific terms for academic subjects are not always available in Sepedi”. This notion was also emphasized in the Language Policy for Higher Education (DoE, 2002, p. 15) which called for the development of African languages alongside English and Afrikaans. Sepedi is one of the African languages that still needs to be developed in order to give it the status of LoLT.

The study therefore provided a form of “interim literacy” where students draw from previous discourses in order to own their ideas and to interact with their peers (Paxton, 2007, p. 50). In her study of first year university students’ texts, Paxton noticed that

students' texts "were built from a range of past and present discourses, discourse strategies and genres" which she termed "interim literacies" (2007, p. 45). Whereas the focus of Paxton's study concentrated on students' written texts, I found that my study, which focused on students' spoken language became a bridge to writing - a key skill to be developed for academic purposes. In my study, instances of "interim literacies" emerged from students' discussions. For example, students occasionally read long quotations from texts as a way of attempting to clarify meanings of concepts amongst their peers (see 6.2.1.4). Paxton (2007, p. 51) termed this tendency "borrowing and mimicking the new discourse" which can be seen in 6.2.2.2 where S8 read a long quote to clarify the idea of a "circular response". Also consider 6.2.1.2 where students drew associations from families to assist their understanding of education concepts. Paxton's analysis revealed that "the associations that students drew on assists them in building new concepts" (2007, p. 50). Sepedi was thus used to help access the Education discourse in ways that assisted students to understand the content knowledge (see 6.4.1 and 6.4.6).

7.1.1.3 Sepedi used as cultural bridge

Social institutions each possess their own cultures (family, church, school and so on). A university environment also has its own culture. Students entering university also faced an alien culture and environment that differs immensely from that of their own cultural and school environments. Students' interview responses for rating their participation in education tutorials prior to the research revealed students' problems and challenges with regard to their "adaptation" to the university culture (see 6.3.3: Table 8). Students also shared painful experiences of the university environment. Their problems ranged for example from missing tutorials and inability to access library books, to personal problems regarding unfamiliar food types served in university residences. Their pain transformed into laughter in the group discussion as they assisted each other to manage their individual situations. For example, a first year student who registered two weeks late, and was overwhelmed by the university environment, reported his fears to peers during our discussions (see 6.2.5). The comfort of the safe space afforded by the group served as a platform for such deliberations. Students used the group's interaction to solve personal problems that they felt would impede their learning. Therefore transition

from their own cultural backgrounds to the university environment was facilitated by the group who were also Sepedi.

Students' own language, which is embedded in their own cultures, helped students to use their own culturally oriented discourse habits. Turn taking during the discussions was a good example. Students handpicked or called peers by name to take turns during the discussions. Students' mother tongue enabled them to communicate in ways that 'integrate words, acts, values, beliefs, attitudes and social identities, as well as gestures, glances, body positions and clothes' (Gee, 1996, p. 127). The cultural habits that were used to take turns in this study have been analysed and discussed (see 6.2.3).

The university context has its own culture and students have to adapt to it if they are to succeed in their studies. This culture is different from the cultural experiences of the students who participated in this research. Eight out of the ten students came from rural backgrounds and working class families, thus before these students could acquaint themselves with their academic courses, they had to acquaint themselves with the university's community and culture.

7.1.1.4 Sepedi used for exploratory talk

Students engaged in exploratory talk when their first language, Sepedi, was used to support the learning of Education Studies. Students used extensions, assertions, requests, explanations, challenges and use of questions to explore Education concepts in this study. Mercer (1995, p. 105) regards these as "speech acts" where groups "assert, challenge, explain, request" and so on. This was a significant practice which was facilitated by students' discussion of Education concepts through their mother tongue.

When individual students extended the content relating to concepts discussed, their peers benefitted. This was possibly due to the interactive nature of the small group discussions and thus appeared to facilitate understanding. The extensions also revealed that students moved from understandings developed within the group to individual understandings. O'Keefe claims that "interpersonal speech becomes intrapersonal..." (1995, p. 10). Individual students in this study showed that they internalized peers' understanding of concepts and reached personal meaning. The data illustrated this tendency in 6.2.2.1.

Requests made during exploratory talk were accepted by peers. This was an indication of the collegiality and collaboration that existed within the group. The goal of the group was to ensure that peers should leave discussions with greater understanding of content knowledge. The nature of the respect shown to those requests could be seen in the case of the latecomer, where the group delayed their discussion to help him (see 6.2.5).

When students challenged peers regarding misconceptions regarding some abstract Education concepts, students' understanding of the learning material showed deep thinking and sophistication. Students also showed growth in their deliberations as they reached constructive conclusions that enhanced learning and understanding. Mercer et al. (1999, p. 3) describe exploratory talk, as talk 'in which partners engage critically but constructively with each other's ideas'. Challenges, posed by group members, raised discussions and helped students to think at a "metacognitive level", where students began to reflect on their own learning as S9 did in 6.2.2.3 (Biggs, 2003, p. 3). These challenges led to constructive debates that assisted peers to mediate Education concepts and enhance understanding. Mediation was made possible as students worked together because "what is mediated is the product of social constructions of meaning (Vygotsky, as cited in Donald et al., 2009, p. 59). Students had to adapt their old meanings of content with new meanings in order to "fit what is more widely understood and accepted" during their group interactions (Vygotsky, as cited in Donald et al., 2009, p. 59). The space where students discussed concepts served as a critical space for mediation. (see 6.2.2.3)

Students' explanations of concepts were made clearer than those experienced in lectures or tutorials due to the language used, comfort of the safe space, and relaxed atmosphere that contrasted greatly with the formality, tense space and language of learning facing students in classrooms. Explanations were shared amongst peers, each bringing their contributions (see 6.2.2.4). I therefore concluded that all students acted as "more knowledgeable others" at one point or another in the discussions and thus contributed to their peers' level of development (Vygotsky, as cited in Bennett & Dunne, 2001, p. 53).

When students worked together and assisted each other to reach understanding, they used questions that developed different levels of thinking. Questions asked also indicated the levels of students' thinking. Responses expected from these questions also

demanded similar levels of thinking. Students' language was used to pose questions during the study.

7.1.1.5 Sepedi used for thinking about learning

Students also used their language to think about their learning. Students' thinking in the study concentrated mainly within Biggs' "relational" level of thinking and occasionally in Biggs' "metacognitive" higher order level of thinking (Biggs, 2003, p. 3).

Biggs' taxonomy of Structure of Observed Learning Outcomes (SOLO taxonomy) was used to identify students' level of thinking during the study (Chamberlain et al., 2004, p. 2). I thought the taxonomy could be applied to describe and analyse the depth of thinking achieved by students during the discussions. I believe that thinking and writing are intermittent processes. At the relational level Biggs identifies task words that require students to "apply, compare/contrast, explain causes, analyse, or relate" what they learnt (Biggs, 2003, p. 3). Students' thinking in most discussions was on the relational level of thinking. Biggs (2003, p. 3) on the other hand identifies task words such as "reflect, theorize, generalize, hypothesize" that are used on the "metacognitive level of thinking". I concluded from analysis of data in 6.2.1.2, 6.2.1.4, 6.2.2.1 – 6.2.2.5 that students were able to use their mother tongue to explore concepts and reach higher order levels of thinking.

Of most significance was that students' first language played an important role as a vehicle for thinking. Students' language, Sepedi, has sufficient verbal cues to support students as they explore challenging Education concepts. Students were enabled to think deeply about their learning in order to reach higher levels of thinking. I therefore concluded that in "context-embedded contexts", where "cognitively demanding" learning material is studied, as in Cummins' "B quadrant" students were enabled to operate at higher order levels of thinking as the language in the group work was "context embedded" (Cummins, 1996, p. 59). Sepedi assisted students with cues to think and explore abstract Education concepts. Vygotsky (1978) also contends that language is central in cognitive development and includes "spoken and written language, as well as sign language, mathematical language and other symbol systems"

(Vygotsky, 1978, as cited in Donald et al., 2009, p. 58). Thus students' language served as a critical thinking tool in this study.

Students need a special space where learning and thinking can be facilitated for their development. I related the safe space in some traits to Vygotsky's (1978, p. 86) "Zone of Proximal Development". In this space students are in proximity - close to each other. They come with what they can do without assistance "actual level of development" and engage in social interaction, with peers, and assist each other to reach "potential level of development" (Vygotsky, 1978, as cited in Donald et al., 2009, p. 59). Students indicated that they were assisted to reach understanding of Education concepts by participating interactively with others in this study.

7.1.1.6 Sepedi created enjoyment, freedom and camaraderie

Students' discussions of academic concepts through their mother tongue evoked feelings of joy, freedom, friendship and companionship. There was evidence in students' reflections that their collaboration and sharing of ideas on concepts created enjoyment and freedom that individual students could not have experienced in the absence of others. These sentiments were documented in students' reflections. Feelings of joy and freedom can only exist where individuals feel comfortable and safe. The research context was created with the focus on students' feelings of safety and comfort that would allow them to engage their deep thinking about what they were learning.

7.1.1.7 Use of Sepedi as LoLT changed students' perceptions of their mother tongue

Students' perceptions and attitudes towards their first language became more positive when mother tongue was used as the LoLT. Students' initial negative attitudes and low perceptions of their language changed after using their language in a context where challenging ideas were explored. Students began to respect their language. My data showed that learning of African languages at schools makes learners have little respect for their own language as a language of learning and teaching. The teaching of African languages does not place a premium on the importance of these languages as LoLT. Students learning these languages regard them as "useless". English has emerged as the

powerful language in South Africa and in many parts of the international world. This language is regarded as the language of power in many social, academic and work place contexts. Matiki (2009, p. 52) highlights “the negative attitudes that speakers have towards their indigenous languages in the face of an economically and politically powerful second language”. Students in this research were astonished that an African language could be used to discuss content at university level and thus lead to deeper understandings. The data analysis pointed to changed perceptions and attitudes (see 6.4.7). S2’s comments suggest that as a native speaker she has no respect for her language:

S2: ... From high school I never thought I will do Sepedi in the university level, which I concluded that is useless. But I found myself in a group discussion about Education Studies being discussed in Sepedi. I actually learned a lot and see the importance of being multilingual.

Bloch and Alexander (2003, p. 96) see this tendency to disrespect mother tongue at the expense of English and as “deeply carved into the psyche of people who have bitter memories of an inferior early education being forced on them through the medium of their mother tongue under apartheid”. This intervention appears to have changed native speakers’ perceptions and attitudes that they formerly held regarding their home language. The data analysis responded appropriately to research aims – to promote students’ respect for their language as LoLT.

7.2 Impact of the research process in main study

I changed my role from a non-participant observer in the pilot study to a “balanced” participant in the main study (see 3.5 and 4.4). I realized that my role as non-participant observer in the pilot study restricted my participation at critical moments during students’ discussions. For example, I could not intervene when students disrespected peers’ ideas or veered from the main task of study. My new role allowed me to participate whenever there were disruptions or I needed clarity on concepts that were being explored in the group discussions.

After the pilot study, I captured students’ reflections of all the Sepedi discussions. These were rich reflective accounts by the students in the discussions (see 6.4). I learnt from students’ written reflections that I needed to change my strategy if I was to capture

valuable accounts of my study (see 5.3). Students wrote reflections, but not regularly, after group discussions during the pilot. Reflections are advantageous because they encourage “students to develop meta-cognitive reflective skills” and thus “enhance learning and develop higher order thinking skills” (Granville & Dison, 2005, p. 99). (See 6.4.1 and 5.4.6).

In the main study I kept detailed field notes of observations conducted during Sepedi discussions. These notes assisted me because I could refer back to my observations where necessary (see 6.2 and 5.2). The scanty field notes kept during the pilot study group discussions made me realize that I should keep more detailed field notes in the main study.

I also omitted the second individual interview session in the main study. I observed in the pilot study that there was no remarkable difference between first and second interviews. Therefore I omitted the second interview session in the main study (see 3.7.1 and 4.6.1).

After the pilot study I reworded the first question of the first interview session as I noticed that this question lacked clarity. Most students needed clarity on this item before they could give an appropriate response. See question 1 in Tables 9 and 10 before and after rewording:

Table 9: Interview Schedule 1 (Pilot study)

<p>Interview Schedule 1</p> <p>Before the group discussions: Individual interview</p> <p>Pilot study</p> <p>1 How did you experience learning Education Studies concepts this term?</p> <p>2 How much code-switching did you use in your Education Studies tutorials: always/most of the time/occasionally/none? Supply reasons to support your response.</p> <p>3 How do you rate your participation in your Education Studies tutorials on a scale of 1-10? (1 being no participation, 10 being great participation) Supply reasons for your response.</p> <p>4 What major challenges do you face in learning Education Studies concepts?</p>
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Table 10: Interview Schedule 1 (Main study)

<p style="text-align: center;">Interview Schedule 1</p> <p style="text-align: center;">Before the group discussions: Individual interview</p> <p style="text-align: center;">Main study</p> <ol style="list-style-type: none">1. How did you find the learning of Education Studies concepts this term?2. How much code-switching did you use in your Education Studies tutorials: always/most of the time/occasionally/none. Supply reasons to support your response.3. How do you rate your participation in your Education Studies tutorials on a scale of 1-10? (1 being no participation, 10 being great participation) Supply reasons for your response.4. What major challenges do you face in learning Education Studies concepts?
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At the beginning of the main study I discussed ground rules for the group in order to avoid unnecessary problems experienced during the initial stages of the pilot study. For example, students disrespected peers' ideas. I therefore discussed ground rules in collaboration with students in the main study (see 4.3.2).

I also experienced technical problems during the pilot study. The tape recorder that I used to record the group discussions was stolen with three hours of recorded material on it. It also took me a longer time to find participants for the pilot study (see 3.4). In the main study I saved data on different devices to avoid any mishap. In collaboration with the Education Studies coordinator, I also devised a better plan to seek participants. I addressed students during Education lectures.

The main study provided valuable data with regard to the impact on students' learning and understanding. This was facilitated by data obtained from student reflections at the end of the study and students' engagement in the final interview sessions. In the pilot study students did not take part in a final interview session as they were preparing for their final examinations (see 3.7.1).

7.3 Conclusions in terms of pilot and main study learning practices

The study's aims and research questions remained the same in both the pilot and main studies. I investigated what impact weekly one hour group discussions of first year Education Studies concepts would have on a group of Sepedi home language students. Students used their first language, Sepedi, to discuss Education concepts. The learning practices concluded in the study are discussed below:

7.3.1 Learning practices observed in research study:

- Interactions denoted code-alternation processes: code-switching, code-mixing, code-borrowing and code-translation. Students borrowed English technical terms for Education concepts during the discussions. The borrowed items were not changed and consequently new terminology was developed through the “transference strategy” observed by Ramani et al.
- (2007, p. 213). Students mixed English and Sepedi comfortably to mediate Education content knowledge. Sepedi was used to discuss facts regarding the education concepts and English was in some instances used for efficiency of expression. Code-translation was observed as students translated, words, phrases or sentenced to ease understanding.
- There was evidence of exploratory talk, where extensions, assertions, requests, challenges, explanations and questions were used by students during the group discussions to develop deeper understanding of Education concepts.
- Culturally oriented discourse habits of turn taking were used in the pilot study and main study. Students maintained harmony and communalism within the group – cultural dimensions identified by Boykin (1983, 1986, as cited in Parsons, 1997, p. 748) and used by African American students to improve their performance in their classrooms. (See Chapter 2, section 2.5.1.
- Morpho/syntactic characteristics of Sepedi were applied on the structure of the lesser used language, English.
- Peer support: Peers helped a student who registered late and showed patience as they helped him to make up for lost time.

7.3.2 Conclusions in regard to challenges and learning practices from individual interviews

In both the pilot and main studies I concluded:

- Students experienced challenges associated with understanding concepts through English, their additional language and the university's language of teaching and learning;
- Students also experienced challenges associated with academic writing;
- Code-switching was used by students to promote understanding of Education concepts;
- Students' Sepedi discussions of Education concepts improved their participation during Education lectures and tutorials.

7.3.3 Conclusions reached with regard to students' reflections:

In both the pilot study and the main study I reached the following conclusions:

- Mother tongue discussions promoted understanding of concepts;
- Discussions promoted sharing of ideas;
- Sepedi discussions promoted participation in education lectures/tutorials;
- Discussions were associated with freedom and enjoyment;
- Discussions promoted social and communication skills;
- Discussions were used to prepare for tests and/or examinations.

7.4 Limitations of the research

This was a case study and as such cannot necessarily be generalizable in other contexts where African language students learn through their mother tongue. The practices that emerged at the University of the Witwatersrand may differ from those of other contexts. Challenges facing students at institutions of higher learning are varied and as such language cannot be singled out as the only challenge facing students in their learning.

The students' reflections focused on challenges they faced in the learning of Education as a result of using English as LoLT. However, students could be oblivious to other valid factors that could cause their difficulties, such as poor education, financial problems and social background.

7.5 Future areas of research

African languages at institutions of higher learning have been neglected as languages of learning over a long period. New research attempts to select courses and teach through the medium of African languages. However, this trend is not yet popular as many African students still regard English as a pathway to education. The disrespect for African languages as LoLT continues to exist in the lives and minds of students, their families and communities. This research, especially as an “interim strategy” could assist many African students who experience English learning as a challenge at institutions of higher learning. There is need for further research to measure the extent of success of such an intervention both qualitatively and quantitatively. The intervention could be conducted over four years, with the same group of students and the impact measured continuously up to the fourth year of study. A researcher could also interview lecturers and tutors in the course and observe students' participation in lectures and tutorials. More research should be done in terms of dimensions conceptualized by Boykin (1983, 1986, as cited in Parsons 1997, p. 748), where culturally oriented learning promoted students' performance in African American classrooms.

7.6 Recommendations

- Code-alternation with variables should be encouraged during lectures and tutorials. At first year level allow students to sit in groups according to their preferred language so that their discussions can be effective as they switch between familiar languages in a group.
- Create contexts outside formal lectures and tutorials where mother tongue can be used to discuss key concepts in different courses. These contexts can be used for the entire duration of the BEd degree, where necessary.

- Employ African lecturers and tutors in the different indigenous languages to coordinate informal discussions. The personnel do not necessarily need to know the content, they need to be participant observers where they probe into deeper understandings themselves of the content knowledge discussed by students. As students clarify concepts for themselves, they enhance their understanding and discover the meaning of abstract academic concepts.
- African languages in the schools should be taught with the purpose of inculcating more appreciation for these languages. The content covered in the curriculum policy documents for African languages should be revised, as learners tend to undermine the value of these languages. More content and thinking skills should be developed in the teaching and learning of African languages.
- Exploratory talk in group work could be introduced at school level and be deliberately taught. Speech acts where students explain, assert, question, challenge, extend, request and so on could be used. These skills will thus serve students in further post-school studies.
- There should be a close relationship between schools and institutions of higher learning.
- All university lecturers and tutors could be advised to learn an African language as a first additional language. It is at that level that African languages can be used to discuss academic concepts and consequently develop terminology to enhance understanding and to also “enrich the pedagogy in the domain of materials development” (Ramani et al., 2007, p. 219).
- University lecturers could acquaint themselves with culturally oriented African practices and link these to academic practices in classrooms in order to improve African students’ performance.
- Lecturers and tutors at institutions of higher learning should be encouraged and willing to use African indigenous languages as a resource in learning contexts should be encouraged.

7.7 General Conclusion

The case study provided a “safe space” for first year Sepedi speaking students at the University of the Witwatersrand to discuss Education concepts in their mother tongue, Sepedi, outside formal lectures and tutorials. Students were comfortable, free and enjoyed exploring challenging theoretical concepts through their informal everyday language.

The study illustrated the value of Cummins’ theory of basic interpersonal communicative skills (BICS) and cognitive/academic language proficiency (CALP) (see 6.2.1.2). Students used everyday, informal language to discuss intellectually challenging abstract education concepts.

Students engaged in exploratory talk, engaging “speech acts”, such “as assert, challenge, explain, request” as observed by Mercer (1995, p. 105). Students used explanations, assertions, challenges, extensions, and the use of questions to explore and develop understanding and thinking of Education course concepts.

The collaborative nature of the group discussions confirmed Vygotsky’s theory of cognitive development where the “Zone of Proximal Development” (Vygotsky, 1978, p. 86) was the space where students “mediated” each other in special ways that could not have been achieved by individuals (Vygotsky, as cited in Donald et al., 2009, p. 59). In the ZPD, students interacted and made mistakes. Dennett (2001, p. 106) regards mistakes as a “secret of success”, because mistakes serve as an opportunity to correct the mistakes and in this way facilitate learning and deeper understanding.

The Education concepts provided “tools for thinking”. Formal learning used concepts for thinking as affirmed in Stuart (2001, p. 121) who regards concepts as “abstractions that enable us to discuss events and ideas”. The abstract concepts provided the context for higher order thinking as observed by students’ use of Biggs’ (2003) task words during the discussions. Biggs’ taxonomy of Structure of Observed Learning Outcomes (SOLO taxonomy) observed a hierarchy of task words that facilitates thinking at different levels of his taxonomy (see Chapter 2, Section, 2.1.1.3).

Bi/multilingual practices were observed during the study. Hakuta (1990, p. 49) found bilingual children were superior in “metalinguistic ability, which refers to the ability to

think flexibly and abstractly about language”. Students in this study freely used two languages, Sepedi and English to enhance their understanding of Education concepts. They used code-switching, code-borrowing, code-mixing and code-translation during their interactions.

It is thus important to include students’ own cultures in learning contexts because primary Discourses “integrate words, acts, values, beliefs, attitudes and social identities, as well as gestures, glances, body positions and clothes” (Gee, 1996, p. 127). The study created a special space where such traits could be used.

The students’ mother tongue served a number of purposes: a linguistic bridge, an academic bridge, a cultural bridge, an exploratory tool, a thinking tool, a tool for creating enjoyment, freedom and camaraderie in a learning context. Use of Sepedi was a tool that changed students’ negative perceptions of their mother tongue as a LoLT in an academic setting.

The impact of the research could be measured through students’ reflective reports of the group discussions. These showed that the inclusion of mother tongue learning at institutions of higher learning could always have a valuable role to play. Finally, in a telephonic conversation prompted by S1 during the Wits University summer vacations in 2011, S1 requested that I should continue with the Sepedi discussion of second year education concepts as she regarded her success in 2011 as a result of the Sepedi discussions. I wish to conclude with these ideas:

Culturally congruent instruction addresses the mismatch between institutional norms and values and those of homes and communities of ethnic minorities. The aim of culturally congruent instruction is not to replicate the students’ home and community cultures but to incorporate them into what occurs in school and classrooms. (Au, Kawakami & Lee, as cited in Parsons, Travis, & Smith Simpson, 2005, p.187).

I believe this study will make a positive contribution to the current linguistic challenges faced in learning contexts, policy planning, formulation and implementation in South Africa.

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APPENDICES

APPENDIX A

Application for permission to conduct research

Wits School of Education

Department of Applied English Language Studies

The Head of Department

Faculty of Humanities

Private Bag 3

Wits

Request for permission to conduct research

My name is Sebolai Sophie Mohope, and I am registered for an MA by Dissertation degree this year 2009, in the Department of Applied English Language Studies at the University of the Witwatersrand.

In the last week, I then decided to do a pilot study. The intention is to use the results to formulate an MA by Dissertation proposal with a longer view to upgrading to a PHD at a later stage. I then was alerted by Professor Janks, from whom I sought advice, that I would need ethics clearance in order to conduct the pilot study. I have thus given an outline of a proposal in draft only, with a list of references, which also is incomplete given the depth this study would need.

My area of focus is that of giving additional support to a group of ten Sepedi mother-tongue speakers where they will use their home language, Sepedi, to review Education Theory 1 concepts where the Language of Learning and Teaching is English, which is a second language to the students. I therefore, wish to request your permission to conduct this study in the Applied English Language Studies in the second semester of this current year, 2009.

Participation in this pilot study will entail tape recorded individual interviews at the beginning, middle and end of the study; tape recorded one hour, weekly reviews; individual students' reflective responses of the study at various intervals; observation of selected students in tutorials; field notes written at various intervals by researcher of accounts of reviews; a table of half year and end of year marks students' marks to compare whether the study had an impact.

Participation will be voluntary and no students will be disadvantaged in any way for choosing not to participate in this pilot study. No identifying information will be required from students or observed tutorials. All participants in this research will be given pseudonyms. This study is very important to me as I believe that it could inform some strategy that higher institutions can use to improve the performance of students whom English is an additional language. My supervisor is Stella Granville. She is in the Applied English Language Studies, in the Wits School of Education.

Yours sincerely,

Sebolai Sophie Mohope

Tel. W. 011 717-3200

Email: sebolai.mohope@wits.ac.za



Wits School of Education

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STUDENT NUMBER: 295122
Protocol: 2009ECE48

19 October 2009

Mrs. Sebolai Mohope
P O Box 1121
WALKERVILLE
1876

Dear Mrs Mohope

Application for Ethics Clearance: Master of Arts

I have a pleasure in advising you that the Ethics Committee in Education of the Faculty of Humanities, acting on behalf of the Senate has agreed to approve your application for ethics clearance submitted for your proposal entitled:

A study of first year Sepedi students using Sepedi to Support their learning of Education Theory 1.

Recommendation:

Ethics clearance is granted

Yours sincerely

A handwritten signature in black ink that reads "Matsie Mabeta".

Matsie Mabeta
Wits School of Education

Cc Supervisor: Ms. S Granville & Dr. P Makoe (via email)

Participant (Subject) Information Sheet

Wits School of Education

Department of Applied English Language Studies

Dear Participant

My name is Sebolai Sophie Mohope, and I am conducting a pilot study for the purposes of formulating a proposal towards obtaining a MA by Dissertation degree at the University of the Witwatersrand, with a longer term view to a PhD.

My area of focus is that of creating a comfortable space, which I will facilitate. Sepedi mother-tongue speakers in this space will use their home language to discuss Education 1 concepts, where the Language of Learning and Teaching, English, is their second language. This pilot study is important because these students encounter new concepts in Education 1 in their first year and the LoLT poses a further challenge to access the disciplinary discourse with ease.

Participation in this pilot study will entail tape recorded individual interviews at the beginning, middle and end of the study; tape recorded one hour weekly group discussions; individual students' reflective responses of the study; field notes written by researcher of accounts of research activities. Your permission to participate in all these activities will facilitate this study which is so important for me.

Your participation is voluntary and you may withdraw at any stage of the study. No student will be disadvantaged in any way for choosing not to participate in this pilot study. No identifying information will be required from you. All students participating in this research will be given pseudonyms. All collected data towards this pilot study will be deleted after a five year period

Attached to this letter are four different forms where you can give your permission to participate in this study or not in the different activities. Appendix H should be used for minors, where your parent or guardian will give consent on your behalf.

This research is intended to contribute both to a larger body of knowledge on perceptions of mother tongue additional support in the learning of students at higher institutions of learning. I am looking forward to working with you in this exciting study. Should you wish any further clarifications feel free to contact me. Find my details below.

Your participation in this study would be greatly appreciated.

Kind Regards

Sebolai Sophie Mohope
Tel. W. 011 717-3200
Email: sebolai.mohope@wits.ac.za

APPENDIX D

Consent from (Interviews)

I _____ consent to being interviewed by Sebolai Sophie Mohope for her study on First year students using Sepedi to support their learning of Education 1 concepts. I understand that:

- Participation in this interview is voluntary.
- That I may refuse to answer any questions I would prefer not to.
- I may withdraw from the study at any time.
- No information that may identify me will be included in the end results of the research study, and my responses will remain confidential.

Signed _____ Date:

APPENDIX E

Consent Form (Recording Interview)

I _____ consent to my interview with Sebolai Sophie Mohope for her study on First year Sepedi students using Sepedi to support their learning in Education 1 concepts being tape-recorded. I understand that:

- The tapes and transcripts will not be seen or heard by any person in this organisation at any time, and will only be processed by the researcher.
- All tape recordings will be destroyed after the research is complete.
- No identifying information will be used in the transcripts or the research report.

Signed _____ Date:

Consent Form (Observed group discussions)

I _____ consent to my participation in the one hour group discussions being observed by Sebolai Sophie Mohope for her study on the ‘The study of first year Sepedi students using Sepedi to support their learning of Education 1.

I understand that:

- Participation in this study is voluntary.
- That I may refuse to be observed during the group discussions.
- I may withdraw from the study at any time.
- The data collected during the group discussions will only be processed by researcher.
- No information that may identify me will be included in the research report.

Signed _____ Date:

Consent Form (Recording group discussions)

I _____ consent to my participation in the one hour group discussions being tape recorded by Sebolai Sophie Mohope for her study on First year Sepedi students using Sepedi to support their learning in Education 1 concepts.

I understand that:

- The tapes and transcripts will not be seen or heard by any person in this organisation at any time, and will only be processed by the researcher.
- All tape recordings will be destroyed after the research is complete.
- No identifying information will be used in the transcripts or the research report.

Signed _____ Date:

APPENDIX H

Parent/Guardian Consent Form

I _____ consent to my child's participation in the one hour discussions sessions being observed and recorded by Sebolai Sophie Mohope for her study on the 'The study of first year Sepedi students using Sepedi to support their learning of Education 1 concepts; and I further consent to my child's participation in the recorded first, second and third interviews by Sebolai Sophie Mohope in the above study.

I understand that:

- Participation of my child in this research study is voluntary.
- That my child may refuse to be observed during the one hour group discussions
- That my child may refuse to be interviewed in this study.
- My child may withdraw from the study at any time.
- The data collected during the tutorials will only be processed by the researcher.
- The tapes and transcripts will only be seen and heard by the researcher and her supervisors
- No information that may identify my child will be used in the transcripts or the research report.
- All collected data towards this study will be destroyed after five years.

Signed _____ Date: