

Expanding the repertoires of practice of
multilingual Science student teachers through a
decolonial approach to academic literacies at an
elite English medium university

Soraya Abdulatief

A thesis submitted in fulfilment of the requirements for the degree of
Doctor of Philosophy in the School of Education, Faculty of Humanities,
University of Cape Town, September 2021.

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Abstract

The need to prepare science teachers in South Africa to respond to a heterogenous language and literacies context where multilingualism is the norm and where school conditions may shift rapidly is urgent. However, students arrive at university with varying resources and some, due to historical inequality, may not be able to meet the academic literacies demands of the university courses for which they register, and are often institutionally described as “at risk” or underprepared. Drawing on academic literacies and decoloniality theorising, this study examines the apprenticeship into the coloniality of schooling for African language speaking students locating deficit, not in the students but in the lingering colonial ideologies of language and literacy in the schooling and higher education systems. My research uses a qualitative approach and is a case study in the form of a participant intervention that addresses the academic and multiliteracies challenges faced by five African language speakers registered for a one-year Postgraduate Certificate in Education (PGCE) in science education at an elite English medium university in South Africa. I also consider whether taking a decolonial approach to academic literacies could expand the students’ repertoires of practice and their production of texts in the PGCE programme. In addition, I investigate the participants’ early experiences of coloniality in education; the academic and multimodal practices needed by student teachers; how African languages could be used as a resource for learning; and the role spaces outside of the university campus played in developing students’ identities as science teachers and in their construction of multimodal repertoires. The theoretical framework draws on decolonial theory (Mignolo 2007; Quijano 2007; Ngugi wa ‘Thiongo 1986) and a social practices approach to academic literacies (Street 1985; Lillis 2001; New Literacy Studies 1993 and the Pedagogy of Multiliteracies; and multimodality e.g. New London Group 2000). The research findings show how African language speaking students’ learning and literacies experiences from school to university continue to be shaped by coloniality, specifically the use of English as the language of instruction. Additional findings consider the specific knowledge and experiences student teachers require to successfully navigate university courses and professional practice; and what

practices the demystification of academic literacies knowledge entails in a teacher education course. Taking a decolonial approach to academic literacies repositioned the students as capable and demonstrated that the problem lay not with the students, but with the system: specifically, under-resourced educational practices such as multimodal and multilingual learning and academic literacies; as well as continuing colonial ideologies of language and literacy.

Keywords: academic literacies, multiliteracies, multimodality, decolonial theory, delinking, border thinking, pluri-versality, apprenticeship of observation, integrated scaffolding, repertoire, South Africa

Declaration

1. I know that plagiarism is wrong. Plagiarism is to use another's work and pretend that it is one's own.
2. I have used the Harvard convention for citation and referencing used by the Graduate School of Education at the University of Cape Town. Each contribution to, and quotation in this thesis from the work(s) of other people has been attributed and has been cited and referenced.
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Acknowledgements

I thank the Divine Source that set me on this path and helped me see this research to completion.

To Carolyn McKinney, my supervisor, sincere thanks and gratitude for all your work and guidance. Thank you also for the knowledge sharing, insights and opportunities you provided over the years.

To the students who were part of this study, I am truly fortunate and grateful to have met you and learned from you and with you. Thank you for your participation and for your belief in my ideas and work.

To my friend, Xolisa Guzula, fellow seeker of answers and solutions. Sisi, thank you for the encouragement, productive discussions and for walking this long journey with me as a fellow student.

To the Academic Propellers, the Bua-Lit and the Thula Ubhale/Shut Up and Write group members, thank you. Important aspects of this PhD were written in our writing sessions. Thank you to Rochelle Kapp for the work opportunities and for seeing the emerging professional in the student. Thank you to Pam Christie for the encouragement and for providing me with some additional funding when my scholarship ended.

To my partner Adam Haupt and son Razeen Haupt, I am blessed to have you in my life. This would not have been possible without your love and patience. Heartfelt thanks and gratitude for the music and for the many ways you both supported me as I learned new ways of being, doing, writing and thinking.

Ohana, your confidence and prayers carried me. Thank you to my mother Adielah (Hunter) Abdulatief, for her generosity, for passing on her love for learning and for keeping me going in small and in significant ways. Thank you to my sister Gadija Abdulatief for her generosity and thoughtfulness. Thank you to Glendah Biel, Beverly Hunter, Annamarie Herrera and Fatima Haupt for the encouragement and support. To my dearest Uncle Allie and Aunt Dhuraiyah Abdullatief, shukran for sharing knowledge with compassion.

To those smiling down on us from heaven, my father, Rashaad Abdulatief, it is done الحمد لله, and to Grandpa Hunter and Grandma Hunter, all those early teachings led to this. Also to Gwen Biel, Sam and Rosemary Hunter and Hamiedah Ghaniem, miss you and thank you.

The financial assistance of the National Institute for the Humanities and Social Sciences, in collaboration with the South African Humanities Deans Association (SAHUDA) towards this research is hereby acknowledged. Opinions expressed and conclusions arrived at are those of the author and are not necessarily to be attributed to the NIHSS and SAHUDA.

Dedication

To every student from those holding crayons, to PhDs, returning students and those engaged in learning; and to my family, the past, present and future descendants of grandparents, Gadija and Achmat Abdulatief; and the past, present and future descendants of Leslie Colin Hunter and Magdalene Hunter; I believe in you and I am cheering you on.

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Abbreviations and Transcript Notation

AcLits	- Academic Literacies/ academic literacies
AD	- Academic Development
BEE	- Black Economic Empowerment
BSc	- Bachelor of Science degree
CDA	- Critical Discourse Analysis
DBE	- Department of Basic Education
EAP	- English for Academic Purposes
EL	- English Language
ELL	- English Language Learners
ESL	- English Second Language
ESRRC	- Education Students Regional Research Conference
HBU	- historically black university
HE	- Higher Education
LiEP	- Language in Education Policy
LoLT	- Language of Learning and Teaching
NLG	- New London Group
NLS	- New Literacy Studies
PGCE	- Postgraduate Certificate in Education
UCT	- University of Cape Town
UWC	- University of the Western Cape
SA	- South Africa/ South African
SASA	- South African Schools Act
SGB	- School Governing Body
TA	- Thematic Analysis
TP	- Teaching Practice
#FMF	- #FeesMustFall
#RMF	- #RhodesMustFall

Transcription Notation/ Conventions

.,!?	I used standard English punctuation conventions to make the transcription from spoken words to written words more understandable
...	Indicates a gap in the data
[Laughs]	Square brackets indicate additional information such as action or gesture
<i>Hayi</i> (No)	I use italics to indicate the use of a word or words in isiXhosa, isiZulu, Setswana, Afrikaans or Kaaps with the translation in English in brackets (No) where applicable
Name:	Refers to the name of the person speaking e.g., Kagiso:

Chapter 1: Introduction

“I longed passionately to teach differently from the way I had been taught since high school. The first paradigm that shaped my pedagogy was the idea that the classroom should be an exciting place, never boring. And if boredom should prevail, then pedagogic strategies were needed that would intervene, alter, even disrupt the atmosphere”

(bell hooks, *Teaching to Transgress, Education as the Practice of Freedom* 1994: 7).

Transformation and addressing the inequality arising when students cannot meet the academic literacies demands at university has been the focus of academic literacies work and research since around the 1990s when universities in the United Kingdom accepted students, from working class and multicultural backgrounds who had previously been excluded, into higher education (Lea and Street 1998; Lillis and Scott 2007). This theory was taken up in Australia, South Africa and other countries (to a lesser extent the United States) when higher education became more accessible to previously excluded groups. While being a heterogenous field, academic literacies research continues to disrupt deficit views of student writing by demonstrating how complex these practices are to acquire without the necessary support. As a field of research, it makes literacies practices visible institutionally since academic writing is not usually overtly taught in higher education institutions despite the fact that writing continues to be a significant form of assessment (Lillis 2001). This field has broadened to include multiple forms of literacies because in some higher education (hereafter HE) courses and disciplines, academic literacies and multimodal practices are more closely intertwined. My research takes place in South Africa at an elite English medium university, focuses on supporting the academic and multiliteracies practices of a teacher education programme and situates itself in the academic literacies field in South Africa. Academic literacies in South Africa is also a heterogenous field which, though still in conversation and alliance with academic literacies theory and practice in the global North, has to respond in specific ways to the contextual factors found here like the fact that it is a multilingual country with 11 official languages.

Rationale for this study

The need to effectively prepare teachers in South Africa to respond to a wide, varying and constantly shifting school context in a multilingual country is urgent and acute. However due to historical differences in access as a result of apartheid and its continuing effects, students, including those entering teacher education programmes, arrive at university from different schools with varying levels of preparedness. Those students coming from poorer communities, whether embarking on undergraduate or postgraduate studies often with English as an additional language are institutionally viewed as being in deficit and characterized as being “underprepared”, especially at elite institutions. While the difference between student resources and the institutional academic literacies demand is acknowledged, the idea of students being “underprepared” is challenged (Smit 2012; O’Shea 2016; O’Shea, Lysaght, Roberts and Harwood, 2016; Dhunpath and Vithal 2012; and Fataar 2018). O’Shea reminds us that “it is important not to simply position students as problematic and instead recognise the overarching constraints that this cohort may operate within” (2016: 61).

Recognising student struggles in higher education in South Africa, Fataar (2018: 596) notes that the problem with the ‘post-apartheid university’, is that these institutions pivoted away from social justice into “the prevailing market capital ambitions of the state in which the university serves as a productive site for the research, knowledge, and skills requirements of a techno-modern future”. This meant that despite the inclusion of black students, there was not sufficient policy reform that spoke to what the Scott Report (South African Council on Higher Education 2012: 2012) called the “‘articulation gap’ between poor schooling and university study” which has “bequeathed universities problems associated with the majority of students’ content and conceptual development, academic skills and literacies, language, and learning skills” (Fataar, 2018: 596). This is a gap which is echoed in data such as “one in three students fail or drop out before their second year of study; 50% of all students fail to graduate, and the completion rate of black students is 50% lower than for their white counterparts (Council on Higher

Education, 2016)” (Fataar, 2018: 597). This is the gap that a marginal, thinly stretched academic literacies provision often tries to bridge.

Academic literacies, coloniality and language as a resource

In its focus on transformation of HE practices, academic literacies can be viewed as part of social and political struggle even though it may not be institutionally recognised as such. In South Africa, the student frustration with institutional practices created a rupture that forced the HE sector to re-examine continuing patterns of provision. The student protests in 2015, #RhodesMustFall (#RMF), and in 2016 #FeesMustFall (#FMF), disrupted the stasis of “business as usual” at the University of Cape Town and at universities across South Africa. The protests foregrounded decolonial theory, revealed the slow pace of transformation and change in HE and the urgent need for renewed commitment to this process. This need had since the anti-apartheid struggle receded under the demands of the marketisation of education and the pressure of university lecturers to teach increasing numbers of students with less resources. Perhaps there was also weariness post-apartheid and a desire to distance from an apartheid past which led to a more market focussed approach and less focus on the continued and generational effects of apartheid on especially black people (Soudien 2010; Fataar 2018). The protests were a reminder that South Africa and South African education remain hugely unequal with the majority of South Africans living in poverty and attending under-resourced schools. It is not that significant change had not happened but that far more change was necessary, and some areas needed more attention than others. The student protests (#RhodesMustFall 2015; #FeesMustFall 2016), were a reminder that though universities saw the inclusion of more black students, partly due to government pressure that tied inclusion to subsidies, more change was needed. Though the student protests called for changes to the funding of education and changes to the curriculum in the many areas which still maintained colonial and apartheid created knowledge, language and academic literacies remained on the margins of social and political debates.

From an academic literacies perspective, issues of language and writing are intrinsic to learning and assessment in HE and in the midst of the 2016 protests, I considered what taking a decolonial approach to academic literacies research might yield as

academic literacies had and continues to have a well- established and valued focus on transformation (Lillis, Harrington, Lea, and Mitchell, 2015). One way in which a decolonial approach converges with academic literacies is by shifting local practices to the centre whilst still maintaining theoretical links and dialogue with researchers and practitioners working globally. Decolonial theory I argue, foregrounds aspects of academic literacies pertinent to the local context, policy and history, in overt ways. Decolonial theory allowed me to foreground an aspect of academic literacies research, namely the inclusion of school-based literacies practices which Lillis and Scott (2007: 19) argue “represents an important move towards understanding the development of academic related meaning making practices across the lifespan” and examine the effects of the language of instruction across different levels of education. In tracing language and literacies across the students’ school, undergraduate and postgraduate learning experiences, I could also examine, through the students’ reflections and past experiences, how having English as the formal language of instruction shaped their learning and literacies. I could consider how institutional language policy shaped student literacy and learning across their educational histories. This focus on prior education and on schooling was however always about acknowledging and understanding the connection between earlier learning experiences and students’ HE experiences especially around language and literacies. Paxton and Frith (2015: 156), in writing about academic literacies and transformation in the South African context, note that researchers and practitioners have to commit to “understanding and uncovering [students’] prior and existing practices that may enhance or present barriers to learning and teaching”. Decolonial theory thus facilitates a focus on academic literacies in HE whilst maintaining a socio-historical and political link to schooling and South African history and politics.

South African schooling and the multilingual context

Kapp, Badenhorst, Bangeni, Craig, Janse van Rensburg, Le Roux, Prince, Pym and van Pletzen (2014) (Kapp, Badenhorst, Bangeni et al hereafter) write that “Education commentators agree that South Africa effectively has two school systems with educational outcomes which still correspond to racial outcomes” (51). To further refine this broad distinction, I would argue that we have three broad bands, a range

of government schools, including fee-collecting ex-model c¹ government schools as well as under-resourced fee free schools, and private schools in South Africa. Though ex-model c schools and private schools are more racially diverse, the majority of their learners come from well-resourced homes, while the majority of government schools serve black bi/multilingual students from under-resourced communities. Despite efforts at redress post-apartheid, these government schools remain under-resourced in terms of school infrastructure, for example, some schools do not have access to clean running water or working sanitation and may have a combination of the following problems such as poorly maintained buildings, insufficient classrooms, textbooks, equipment and insufficient teaching staff. Often classrooms are over-crowded and the students may not have the requisite basics like stationery or even nutrition. In addition to these complex sociohistorical factors, one aspect affecting all levels of education, beginning at school is the use of English as the language of instruction in a country with 11 official languages. Of these eleven languages the dominant languages are isiZulu, isiXhosa, Afrikaans, English, Sepedi, Setswana, and Sesotho. IsiXhosa and isiZulu, Sepedi, Setswana and Sesotho are languages spoken by large sections of the South African population. Even though English speakers make up less than ten percent of the South African population, English remains the dominant language of education, government and the workplace.

After 1994, post-apartheid, a suite of policies was meant to address a tiered educational system based on race, the most significant of which included the language in education policy (LiEP) and the South African Schools Act (SASA). Though all the policies work with the language in education policy (LiEP), the wording

¹ “Model C” schools are highly resourced government schools that used to cater to white South Africans only. They are called model c’s colloquially in South Africa because as part of the apartheid negotiations when different models of how schools would be racially integrated was put forward parents and school bodies chose option or “model c”. These schools remain under the control of school governing bodies and have the resources, staff and school buildings near the level of private schools in South Africa. Most are assimilative, continue long-standing traditions and are oriented to middle class conventions. See Christie and McKinney (2017) for a discussion on decoloniality and model c schools.

in the LiEP which promotes additive bilingualism but allows schools to choose their own language of instruction, is considered one of the policies which contributes to continuing patterns of inequality in South African education. The aim of additive bilingualism is to maintain the separateness of languages with the view that “an additional second language was simply separately added to a first” language (García and Lin, 2008: 120). In South Africa however, the additive bilingualism of the LiEP is undermined by the Curriculum and Assessment Policy statement that assumes English as the language of instruction from year 4. Heugh (2002) argues that the choice of English as the language of instruction in schools and communities where African languages are the language spoken by the majority of the people and where English is an additional second or third language is due to the global dominance of English. While de Klerk (2002) states that the reason for choosing English as the language of instruction is due to the fact that English was the lingua-franca of the anti-apartheid struggle, and that English is the language used in the workplace and a dominant language in HE. Thus, though school principals, parents and learners can choose an African language as the language of instruction, English is officially chosen as the language of instruction in most schools despite the fact that teachers and learners may primarily speak African languages and may not speak English outside of school.

Due to the additive bilingualism espoused by the LiEP, most schools follow a policy of African language of instruction from Reception Grade to Grade 3 (Grades R-3), with English taught as an additional language subject from Grade 1. However, in Grade 4 English becomes the language of instruction and learners, after only having English as a subject for 3 years, then must cope with a change in language of instruction implying that all learning is supposed to happen in English. Consider for example a 10-year-old you know, who after learning in English for three years and learning isiZulu as an additional language for one hour a week for three years, in Grade 4, must learn all subjects through isiZulu as the language of instruction. This example allows one to understand the difficulties of learning through an additional language especially for children at age 9/10. Since learners in Grade 4 were not able to express earlier learning (Grades 1-3) or newer Grade 4 learning in English their additional language, most teachers continue to use African languages to support learning orally and thus maintain a bilingual classroom environment translating

school content into the learners' African home languages daily. Though the bilingual classroom discourse is productive for learning, naming English as the language of instruction in the school policy, undermines this necessary bilingualism as learners must produce their writing and assessments in English. Another constraint to what Probyn (2015; 2019) calls 'pedagogical translanguaging' or moving between African languages and English through translation or 'mixing' languages is that there is very little teacher training in bilingual education as HE also maintains English as the language of instruction. Teachers are often censored by education department officials and school principals (Krause and Prinsloo, 2015) for using bilingual/translanguaging strategies even though this is the only way learners can access the school curriculum. Academic literacies researchers, practitioners and scholars working in HE in South Africa who acknowledge student language as a resource agree that "We can't open the doors of learning and then let new students fail. Academic literacy/ies as work responds to the institutional refrain that 'students can't read and write'" in standard English (Thesen, 2015: 423).

The aim of academic literacies work in South Africa, states Thesen (2015), has been to ensure that students from historically disadvantaged communities, especially black working-class students with English as an additional language, are provided with support in order to "graduate strongly enough to make meaningful choices at the end of the degree, some joining the university as the next generation of academics" (423). One goal of my research is to demonstrate how English as language of instruction without teacher access to training in bilingual/ multilingual and translanguaging teaching methods and materials leads to the construction of HE students as students in deficit and at a disadvantage. Another goal of my research is to experiment with bilingual/multilingual teaching methods to find out what complexities arise when African languages are used as a resource for learning in a context where the facilitator/teacher does not speak the language, as was the case for me.

Personal motivation for the study

My interest in making academic literacies more accessible started in 1990 when I arrived at a historically black university (HBU) as a first-year student registered for a Bachelor of Arts degree with majors in English Literature and Psychology.

Throughout that difficult year marked by student and civil protest against the apartheid government that was still in power, I struggled with the different writing demands of my courses. When I did well for one essay in English Literature and applied the same practices to an essay for another course like Psychology I did not do as well. As I learned to write academic essays through comparing my own essays, I kept thinking that “there should be a better way”. It was only after becoming a tutor for English Literature in my third year of study when we were trained in how to teach and assess academic literacies that my own writing in courses other than English Literature began to improve. My affinity for making learning engaging and practical through scaffolding was developed when I worked as a writing consultant in a Writing Centre at a university of technology. At the Writing Centre we assisted students from different courses and here I had to learn to do two major things. Firstly, I had to work with a diverse range of students across the institution on their writing from engineering reports to journalistic story writing. I had to pivot between varying writing tasks for different courses and across different levels of study. Secondly, I had to learn how to create and present writing workshops that were engaging and where learning took place through games and play. At both the HBU and the university of technology I worked primarily with African language and Afrikaans speaking students for whom English was an additional language, and who needed support with their academic reading and writing. The motivation for working with students on academic literacies lies in my own initial struggle with learning to read and write in an academic context and I offer this research as a proposal of ways to teach academic literacies practices in a multilingual context. In doing so, I draw on bell hooks’ words expressed in the quotation opening this chapter, and echo her longing to teach differently, so that learning in HE at universities should be exciting for all students and adding my caveat that learning should be scaffolded and supported, especially for those students who have experienced schooling through an unfamiliar language in impoverished circumstances. Despite education and educators’ best intentions to provide access to HE, learning and teaching remains subject to shifting conditions and as the conditions shift, so should educators and their practices.

Description of the study

My research takes a decolonial approach to academic literacies in the disciplines and explores the range of practices implemented in an academic and multiliteracies intervention to support students learning to be science teachers in a teacher education course. It describes and examines both academic socialization into normative academic literacies practices and the design and implementation of transformative pedagogy. Taking a decolonial approach to academic literacies allowed me to trace the coloniality in students' prior educational experiences (including their schooling) as well as in their postgraduate experience. A decolonial approach revealed how normative institutional practices especially what Lillis (2001: 53) calls the 'institutional practice of mystery' operate so that the 'mystery' or reliance on osmosis as pedagogy is shaped by the logic of coloniality which makes the practices less intelligible to students. Lillis (2001) notes that the "practice of mystery' is ideologically inscribed in that it works against those least familiar with the conventions surrounding academic writing, limiting their participation in HE as currently configured" (53). My study reveals how both the student participants and academic literacies facilitator's understandings of being literate in the field of teacher education expanded and changed.

The research focusses on the Postgraduate Certificate in Education (PGCE) at an elite English medium university in South Africa and takes the literacies and student assessments of the Education core course as the locus of analysis. The PGCE programme is a well-run year-long programme for students who already have an undergraduate degree and who wish to learn to become teachers. Though the PGCE lecturers may differ significantly in their approach, theoretical affiliation and research, their teaching allows the majority of PGCE students to navigate successfully through a highly demanding one-year programme with some students thriving and excelling. However, my PhD research investigates how to support students who are not as prepared for the challenges of the PGCE and who do not perform as well or who are at risk of failing. The research investigates how literacies practices are shaped by contextual and policy factors most notably the effect of English as the language of instruction on literacies and learning. The study is an intervention in which I designed, taught and collected data as an academic literacies' facilitator for PGCE students who came from science undergraduate degrees and

who were at risk of failing. In any intervention, the focus is on improving the practice, of the student, researcher and the broader field. The research focussed on making explicit the discursual practices and 'ways of being' in the education disciplines that student teachers had to study.

Research Questions

My study is framed by the following overarching question and subsidiary questions:

Primary Question:

1. How might a decolonial approach to academic literacies expand selected multilingual students' repertoires of practice and their production of texts in a teacher education programme at an elite English medium university in South Africa?

Subsidiary questions:

1.1. What are African language speaking students' early experiences of coloniality in education and how do these influence their understanding of the academic literacies and teaching demands in postgraduate teacher education?

1.2. How can one support African language speaking students with degrees in science in learning the academic and multimodal practices required in teacher education?

1.3. How can student-teachers be encouraged to use their African languages as a resource to develop bilingual/translanguaging pedagogy for science teaching in an officially monolingual English education system?

1.4. What role do spaces outside of the university campus play in developing students' identities as science teachers and in their construction of multimodal repertoires?

Overview of the thesis

Chapter 2 focuses on the theoretical framework of this research and the important concepts used. The primary theoretical approaches used are: theorising language and literacy as social practice (Lillis 2001, New Literacy Studies 1993 and the Pedagogy of Multiliteracies; translanguaging e.g., Garcia and Kleifgen 2020 and multimodality e.g., New London Group 2000); and decolonial theory (e.g., Mignolo 2007; Quijano 2007; Ngugi wa 'Thiongo 1986).

Chapter 3 reveals the research design and the processes and steps taken to enact the research. Here I discuss the research site and participants, my role as academic and multiliteracies facilitator and I explain the design of the intervention and the data analysis process.

Chapter 4 is the first data analysis chapter and here I discuss how coloniality shaped the students' education, focusing in particular on how student experiences of language use, literacies and learning practices from school to university were shaped by a language policy that privileges English as the language of instruction.

Chapter 5 focuses on the academic literacies of the Education core course of the Postgraduate Certificate in Education (PGCE) programme and focuses on three types of writing that forms part of the writing demands of the course: an academic essay, a lesson plan and the corresponding PowerPoint presentation. This chapter also discusses the multimodal literacies required by student teachers and how these multimodal literacies were supported by the academic literacies facilitator.

Chapter 6 discusses transformative aspects of academic literacies by examining how African languages can be used as a resource to support science learning in a way that is pedagogically sound. It also reveals some of the considerations for a facilitator in using student languages as a resource for learning when the facilitator does not speak the language of the student.

Chapter 7 focuses on how to support students' learning to meet the multimodal demands of the PGCE programme and of being a science teacher. It considers the significance of student access to outside-of-university learning spaces as a source of multimodal learning.

Chapter 8 is the concluding chapter in which I discuss the compelling findings of the research, the implications of the findings and outline the contribution to knowledge.

Chapter 2: Theoretical Framework

Introduction

In this chapter, I outline the theory I used to construct a framework for my case study of an academic and multiliteracies intervention that serves as an example of academic literacies pedagogy and the transformative practice used to support students in a Postgraduate Certificate in Education (PGCE) programme. The two primary theoretical orientations of this research are: theorising language and literacies as social practice (including academic literacies, e.g., Lillis 2001, New Literacy Studies 1993); translanguaging (e.g., Garcia and Kleifgen 2020); multimodality (e.g., New London Group 2000 and the Pedagogy of Multiliteracies); and secondly, decolonial theory (e.g., Mignolo 2007; Quijano 2007; Ngugi wa 'Thiongo 1986). These theories were important for conceptualising and answering the three subsidiary questions and the primary research question "How might a decolonial approach to academic literacies expand selected multilingual students' repertoires of practice and their production of texts in a teacher education programme at an elite English medium university in South Africa?". I begin by discussing academic literacies theory, followed by multiliteracies and decolonial theory. I focus on academic literacies and multiliteracies because supporting student writing and learning in postgraduate teacher education includes multiple modalities and multiple literacies. The concepts academic literacies as a field draws on that are most pertinent to this research are: the delineation between academic literacy singular and academic *literacies* (plural); Street's (1993) formulation of autonomous and ideological models of literacies; Gee (1992) and Street's (2003) formulations of writing as social practice; the New Literacy Studies' (1993) (hereafter NLS) focus on transformation; and the New London Group's (1996; 2000) (hereafter NLG) Pedagogy of Multiliteracies. I also draw upon aspects of Pauline Gibbons' (2009; 2015) scholarship on scaffolding and working with learners who have English as an additional language in Australian schools as examples on how to work with multilingual learners in a supportive manner. I draw on decolonial theory to centre the local context, namely a university in South Africa. My discussion of decolonial

theory, includes the work of decolonial theorists like Mignolo (2007) and his concepts such as the double-movement of decoloniality, delinking, entanglement, border thinking and pluri-versality. I also refer to decolonial concepts such as Quijano's (2007) coloniality and Maldonado-Torres' (2007) references to a 'decolonial turn'. I include the work of African decolonial scholars such as Ngugi wa 'Thiongo (1986), Ndlovu-Gatsheni (2012) and Mbembe (2015) whose work continues to influence and shape decolonial theory in Africa and South Africa.

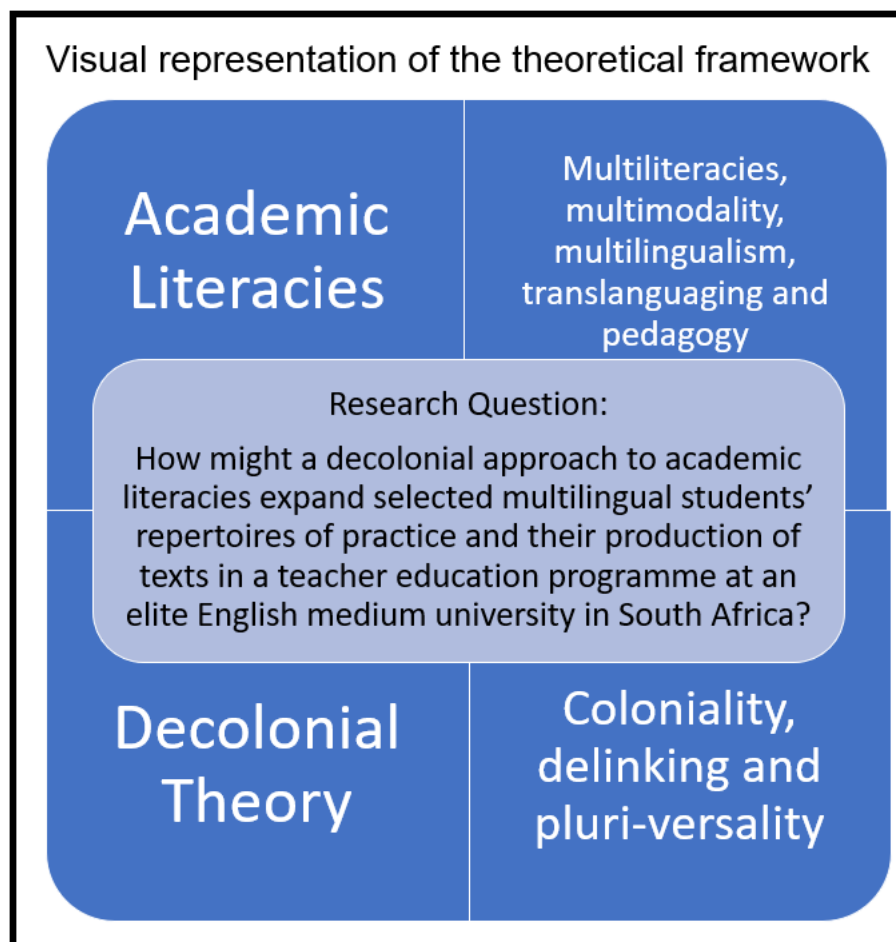


Figure 2.1: Visual representation of primary theories and concepts

Academic Literacies

Since the research is in academic literacies, I start with providing a brief overview of the field. Academic literacies as a field developed in the 1990s in the UK, Australia and South Africa, (Lillis and Tuck, 2016), when universities were increasing the participation of students of colour and students from working class and multilingual backgrounds who had previously been excluded from higher education. Writing was prioritised as a research focus in the field because essays and written assignments constituted two of the primary forms of assessment in higher education especially in the Humanities and Social Sciences. As students new to the literacies required in HE and largely unsupported institutionally struggled with learning academic literacies practices, academic literacies practitioners sought to address the deficit discourse that grew around these students (Lillis and Tuck, 2016). In the introduction to their edited volume, *Working with Academic Literacies: Case Studies Towards Transformative Practice*, Theresa Lillis, Kathy Harrington, Mary R. Lea, and Sally Mitchell (hereafter Lillis et al), define Academic Literacies as a “critical approach to the researching and teaching of writing and literacy and to the role and potential of these activities for individual meaning making and academic knowledge construction in higher education” (2015: 4). The words “critical approach” in their description of academic literacies is important since there are many stances to academic literacies and a myriad of ways scholars, researchers, practitioners, and students engage with reading and writing in HE in various institutional and geographic contexts.

Academic literacies is thus a heterogenous field. Those in the field engaged in critical and transformative approaches toward changing and critiquing existing dominant literacy practices in academia may, according to Lea (2004), take all or some of the following stances: firstly that literacy/literacies is not a unitary concept but that reading, writing and speaking are cultural and social practices that vary according to context; secondly a transformative or critical stance challenges the belief that literacy is a set of cognitive skills which once acquired can be used in any new context, field or subject; and thirdly that students are unproblematically acculturated or socialised into academic culture and literacy through mirroring and implementing the discourses and practices of established practitioners (2004: 740). Another important aspect to academic literacies research is the work around language use and language rights that challenges the use of one dominant language

which positions other languages as marginal (Street 2003). Lillis and Scott (2007) state that even though language diversity is celebrated in official policy documents in HE, language diversity is treated as a problem that only becomes visible when students need additional and remedial support with reading and writing in academic discourse in English. In multilingual contexts like South Africa, researchers, practitioners and scholars (Thesen and van Pletzen 2006; Kapp and Bangeni 2011; Jacobs 2013; Paxton and Frith 2015) working with multilingual students have, through their scholarship, highlighted the importance of language rights and using student languages as a resource (Ruiz 1984; New London Group 2000) in academic literacies research. Next, I discuss some of the academic literacies challenges that need to be addressed in teacher education since the research centres around the literacies of a teacher education programme, the PGCE.

Academic literacies for student teachers

Critical or transformative academic literacies for student teachers need to go beyond the dominant view of literacy as unitary and as primarily focussed on written assessments. Students learning to be teachers need to span several domains, amongst others, academic, professional and administrative (Devereux and Wilson, 2008). Student teachers may also be teaching and learning several content or disciplinary areas e.g., Mathematics and Geography, and may need to learn to use and move between several modalities such as oral, written, gesture and drawing. Devereux and Wilson (2008) state that academic literacies for student teachers “is not simply a matter of ‘fixing’ students’ subtechnical skills of grammar and spelling, though some students may need particular help in this area”, instead, “education students need to develop a range of literacies practices” (121). Included in the range of literacies needed by student teachers at university are reading and writing the academic texts that course lecturers prescribe as well as learning the modalities of teaching and increasingly, learning how to use technology and a variety of computer applications in teaching. Also significant is whether the student teachers are qualifying through a Bachelor’s degree (such as the B.Ed.) or, like the students in this research, a postgraduate certificate programme (such as the PGCE). Part of the transformative role academic literacies researchers play involves making literacies

visible institutionally and demystifying literacies practices. Hyland notes that institutionally postgraduate students are expected to have mastered the ability to do independent research and, until recently, without much support (2009: 139). Noting that writing remains a challenge even for postgraduates, Scott (2000) states further that the beginning teacher “has to create the object of study within the demands and expectations of the higher education institution and the school” (2000: 119). Consider then the complexity of academic writing for students for whom English is an additional language, who have undergraduate degrees in science and may be engaging in academic essay writing for the first time in a one-year teacher education certificate programme. These are some of the significant reasons why some students fail writing assessments and become recognised institutionally as unsuccessful writers and if this occurs across subjects or modules, they are constructed as failed or unsuccessful students.

Academic literacies researchers and practitioners challenge institutional constructions of student writers as deficient by examining student writing practices from the perspective of the student. Pardoe (2000: 125) notes that understanding student writing judged as unsuccessful by institutions, “in a way that offers practical insights and ways forward, is one of the key challenges for writing research”. According to Pardoe, problems with student writing are not always about a lack of knowledge or understanding but rather, “[u]nsuccessful texts are often the results of students drawing on familiar ways of learning and writing that have served them well elsewhere, in their previous education or in other areas of their lives” (2000: 125). In understanding the logic or rationale of student texts, says Pardoe, we may shift our own ideas of “any teaching of writing as somehow ‘remedial’ as teaching only what students should have learned before” to focussing on understanding writing from the student’s experience (2000:125). Another significant challenge for students learning to write essays in HE, says Pardoe (2000: 131), is the use of single assignments to demonstrate learning and for assessment at the end of coursework. This does not allow students to practice writing without being assessed and prevents them from learning from assessments as the assessments occur at the end of a module of work and students then move on the next module.

Student difficulties with writing are often articulated as deficiencies of the students themselves, especially if the students are multilingual or have home languages other than English. Smit (2012) states that the deficit view revolves around the idea that students “who do not succeed in higher education fail because of some internal shortcoming (e.g., cognitive or motivational), or some external weakness linked to the student (e.g., cultural or familial background)” (370). This view “effectively blames the victim for lacking certain desirable characteristics that would promote academic success” (Smit, 2012: 370) These deficit views influenced the development of courses created to solve ‘problems’ with student writing such as English for Academic Purposes (EAP) or Academic Development courses (AD). As research in the field of academic literacies progressed, academic development was viewed as taking a more assimilative stance in socializing students into proficiency in dominant writing practices and discourses in academia, while academic literacies research was viewed as working with the normative to provide students with access to powerful discourses but also taking a transformative stance that questioned the dominance of English and the power of writing and literacies at university (Lillis and Scott, 2007). The differences in focus and intent between EAP, AD and academic literacies, though fluid and contested are often expressed in the terms used to describe these approaches.

Key terms and theoretical conceptualisations in academic literacies

Since it was clear that academic literacies could have both an assimilative and transformative focus, a debate arose amongst scholars and practitioners on how to signal whether the approach to academic literacies had a transformative agenda. Scholars and researchers considered whether to use the singular term “literacy” as advocated by Kress (1997) or “literacies” (plural) as argued by Street (2003). Kress advocated for using the singular term “literacy” because he viewed language as always evolving so there was no need to pluralize a construct that in his view was fluid and plural. Street argued that academic literacies (plural) challenged the convention of a single dominant language that forced other languages to the margin (Lillis and Scott 2007: 15). In the field however, the use of the terms remain fluid. Lillis and Scott (2007) state that researchers sometimes use the plural form “literacies” in their writing “to signal a transformative social practice approach” (16)

that goes against the idea of a single autonomous dominant language and literate form, but also state that the debate on using the singular or plural form remains unresolved. They found that use of the terms literacy/literacies were context dependent with scholars using “either the singular or the plural form (or both) in their specific institutional contexts” (2007: 16). Currently, the plural form ‘literacies’ is more widely used to signal a transformative approach from a social practices perspective. This transformative approach, argue Lillis and Tuck (2016: 32), allowed academic literacies to reframe “the student writing ‘problem’ turning the gaze on the institutions (universities, disciplines) focalised through the experience of student writers”. Regarding the debate around literacy or literacies in South Africa, says Jacobs (2013: 131), “the singular form does not necessarily denote a normative approach” and the use of the plural, “academic literacies”, does not always reference “a transformative stance and a focus on ‘situating and contesting’ academic and disciplinary conventions” unless practitioners and researchers state explicitly or signal their choice through their research and work. I use the plural form, ‘literacies’ to acknowledge that teacher education is a vocational or professional field that requires multiple literacies and modes. I also use the term “academic literacies” to signal a transformative intent around the dominance of English in teacher education in a multilingual context like South Africa arguing for both student access to dominant practices and to transformed practice through inclusion of the language resources of multilingual speakers especially in educational contexts.

Autonomous and ideological models of literacy

Brian Street’s (1984; 1993) conceptualisation of autonomous and ideological models of literacies are key concepts in academic literacies that allow the field to theorise and identify patterns of literacies teaching, learning and policy and help us identify whether these serve a more or less assimilative or transformative role. Arguably, Street’s conceptualisations make visible links between macro state and institutional policies and micro lecturer, teacher and student literacies practices and vice versa. Street states that “The exponents of an ‘autonomous’ model of literacies conceptualise literacies in technical terms, treating it as independent of social context, an autonomous variable whose consequences for society and cognition can

be derived from its intrinsic character” (1993: 5). Proponents of autonomous views of literacies divide the world into societies with oral cultures and those with literate culture with the latter viewed as superior. Advocates of autonomous views of literacies also favour monolingualism and teaching literacy in a single dominant language. Reading and writing are viewed as skills that once learned can be easily transferred between contexts and subject areas. Moreover, literate individuals are represented as more “modern”, “cosmopolitan”, “innovative and empathetic” to encourage assimilation into dominant language and literacy practices (Street 1993: 5). The autonomous model of literacy remains the dominant model of literacy in South Africa and worldwide because teaching language skills, allows the myth of language as a transparent medium free from the influence of ideology, politics and economics to continue without the need to teach students and society the power in language and how power can be produced and reproduced through language. If power appears to be disconnected from what is understandable, it maintains its mystery and is hard to challenge. This maintains the status quo, especially in the face of centuries of written colonial history and tradition. The replication of this status quo through literacy in education is part of what academic literacies seeks to challenge and transform. Conversely, an ideological model of literacies says Street (1993:2), recognises the “central role of power relations in literacies practices” and recognises “the variety of cultural practices associated with reading and writing in different contexts” (Street, 1993: 7).

The way autonomous and ideological models of literacies are expressed in higher education research and pedagogy is theorised in Lea and Street’s (1998) three approaches to teaching academic writing namely, the Study Skills or Skills approach, the Academic Socialization and the Academic Literacies approach. The Study Skills/ Skills approach is a hegemonic decontextualised approach based on an autonomous view of literacy as a set of atomised skills and the focus of academic literacy practices is on teaching students the formal elements of writing such as English grammar and text structure. In this model, writing is believed to be an autonomous skill, that is transparent and transferable across disciplines and contexts (158). The focus of the Skills approach is on “trying to ‘fix’ student problems which are then treated as a pathology” (Lea and Street, 1998: 158) and is linked to the deficit discourse of student writing where students’ difficulty with academic writing is seen

as a lack of individual ability. However, critique of this approach, which became the dominant approach, resulted in the Academic Socialization approach that aimed to “induct students into a new ‘culture’, that of the academy” (Lea and Street, 1998: 159). The second approach, the Academic Socialization approach focused on student orientation to learning, the interpretation of learning tasks, and assimilating students into institutional practices (Lea and Street, 1998: 159). A critique of this approach was that the institutional practices remained unquestioned and unchanged while students’ languages and identities were ignored or overlooked in the process of assimilating into the language practices of the field and institution. The skills and academic socialization approaches are most associated with the EAP and AD courses.

The third approach identified by Lea and Street (1998) was the academic literacies approach, an ideological approach that views literacies as a socio-political practice. In research that takes an academic literacies approach, the focus of the research on student writing is concerned with epistemology and identities and includes aspects of skill and socialization (Lea and Street, 1998: 159). The academic literacies approach takes an ideological stance toward literacies with institutions viewed as sites of discourse and where power is enacted through decisions, practices and policies around literacies. Researchers and practitioners of this approach argue that “the literacies demand of the curriculum involves a variety of communicative practices, including genres, fields and disciplines” (Lea and Street, 1998: 159). Lea and Street (1998) state that these approaches encompass early iterations of each other with the academic literacies approach viewed as the most significant iteration. A remaining challenge for the academic literacies approach and a critique of the approach is whether academic literacies practitioners were addressing or changing the government and institutional policy decisions that shaped writing, learning and education since their focus was mainly on student texts. How to shift government and institutional practices and policy whilst maintaining student support remains a consideration and an area of development in academic literacies research though gains at the level of curriculum and working with individual lecturers and students have been made. The ideological approach to literacies thus allows researchers and practitioners to view student difficulties with writing in relation to institutional practices and policy decisions. For example, in South Africa, student difficulties with academic

literacies are influenced by institutional policy decisions such as, the choice of English as the preferred language of instruction at school and university.

Literacies as social practice

Significant to the academic literacies approach is the conceptualisation of literacies, reading and writing, as social practice. The idea of literacies as social practice is associated with the work of Gee (1990) and Street (2003). Street (2003: 77) states that New Literacies Studies (NLS) (Gee, 1991; Street, 1996) considers “the nature of literacies, focusing not so much on acquisition of skills, as in dominant approaches, but rather on what it means to think of literacies as a social practice”. New Literacies Studies said Street (2003: 77), recognises that there are multiple literacies which “vary according to time and space and are implicated in relations and contestations of power” and allows researchers to question “whose literacies’ are dominant and whose are marginalized or resistant”. Reflecting on the three approaches, Lea (2016) states that in early conceptions of academic socialization, Lea and Street (1998: 90) “argued that academic socialisation was concerned with the acculturation of students into disciplinary academic discourse and culture” while in contrast, “academic literacies focus on institutional practices, change and power and institutions as sites of contested meaning making”. However, the academic literacies approach has also been critiqued for lacking clear pedagogy. Making this critique, Lillis (2003) cited Kress’s view that “academic literacies has yet to be developed as a design frame (Kress, 1997) which can actively contribute to student writing pedagogy as both theory and practice” (192). The need for research on academic literacies pedagogy is addressed in an edited volume on pedagogic strategies in academic literacies (mentioned above) entitled *Working with Academic Literacies*, Lillis, Harrington, Lea and Mitchell (2015). In this edited volume, researchers, scholars and practitioners reveal through their work how academic literacies as social practice responds pedagogically to the context, field and students with whom they are engaged.

Roz Ivanič (1998) is a scholar whose work drew on New Literacies Studies, particularly the idea of writing as social practice and Fairclough’s (1995; 2010) Critical Discourse Analysis (CDA). Ivanič (1998) researches the way student identity

is affected by institutional writing practices as well as how students express their identity and aspects of themselves through writing. Methodologically, Ivanič (1998) showed the importance of an ethnographic approach to academic literacies and revealed the significance of learning about the student's context to understanding the student's writing (Lillis and Scott, 2007). Viewing writing as a social practice argued Ivanič (2004) includes the "broader sociocultural context of writing: the social meanings and values of writing and issues of power" (2004: 226). In my research, I used a similar approach to Ivanič (2004) including using an ethnographic approach that facilitated the collection of data about the educational background of the students. The ethnographic approach was important to challenge what Boughey and McKenna (2016: 3) have called the "discourse of the decontextualised learner" and what Lillis and Scott (2007) have called the bias of the centrality of student texts found in normative approaches to academic writing pedagogy. Lillis and Scott (2007) argue that while academic development approaches focussed almost exclusively on student texts, research taking a social practices approach to academic literacies shifted away from only focussing on student texts to aspects of student writing that had been invisible or overlooked such as "the impact of power relations on student writing; the contested nature of academic writing conventions; [and] the centrality of identity and identification in academic writing" (Lillis and Scott, 2007: 12). Ivanič also argued that when writing is viewed as a social practice, the social goals literacies serve for people and institutions; the way people participate and use their time and space; as well as how they use "tools, technology and resources" including various modes become important to research (2004: 226-227).

The importance of social practice and social context is also significant in teacher education, where the context and a student teachers' early learning experience can influence and shape her/his understanding of teaching and literacies practices. Britzman (2003: 1) writes that "We enter teacher education with our school biography" and that "Theoretical knowledge of teaching is not easily valued" while "school biography matters too much". Early experiences of schooling are contextual in that they also shape our identities as writers. Ivanič (1998: 24) argues that our identities as writers can be divided into the following three aspects: the 'Autobiographical Self', the 'Discoursal Self' and the 'Self As Author'. Early schooling and language and literacy experiences are important to the construction of the

'Autobiographical Self' which Ivanič writes is "the identity which people bring with them to any act of writing, shaped as it is by their prior social and discursal history" and further that this is "the 'self' that produces a self-portrait, rather than the 'self' which is portrayed" (1998: 24). This is the identity which is often left unacknowledged by some academic literacies practitioners and scholars who focus exclusively on student texts produced in and for academic courses.

The limitation of focussing exclusively on student texts can, in teacher education specifically, states Scott (2000), lead to student teacher assignments being viewed as mirroring their "subjectivity - a subjectivity regarded implicitly, if not explicitly, as constituting the trainee teacher's ideal identity and source of her agency in the classroom" (2000:115). When a student teacher has difficulty with academic literacies, especially with academic writing, it is assumed that he or she will make an ineffective teacher. In the absence of academic literacies support, written assessments function as a gatekeeping measure to stop "ineffective" teachers who struggle with literacy from entering an (already fraught) education system. Another subtle approach to student problems with academic literacies is to allow the students to narrowly pass through the course, without intervening and supporting the student, thus closing off future postgraduate study and future potentials for the student. The importance of literacies as social practice to teacher education lies in acknowledging the connection between "the demands of beginning [teaching] practice [and how these] draw on competencies developed in previous preparation" such as in earlier education to successfully negotiate the demands of teacher education (Beauchamp and Thomas, 2009: 186).

A Pedagogy of Multiliteracies

Previously, I stated that Lillis critiqued academic literacies practice for not having a specific pedagogy with which to address student difficulties with academic writing. Most academic literacies practitioners and researchers develop their own practices and adapt practices shared by colleagues or found in research. A Pedagogy of Multiliteracies (1996) (also Multiliteracies) was introduced by a collective of theorists and researchers (consisting of Cazden, C., Cope, B., Fairclough, N., Gee, J., Kalantzis, M., Kress, G., Luke, A. Luke, C., Michaels, S. and Nakata, M) that came to

be known as the New London Group. The Pedagogy of Multiliteracies (1996) was published 10 years after Street's (1984) autonomous and ideological model and proposed that there were multiple forms of literacies in multiple spaces and contexts, in multiple languages. The Pedagogy of Multiliteracies sought to overcome the problem identified by Luke (1996), namely that teaching students to uncritically assimilate the dominant genres allowed dominant patterns of literacy to continue and the challenges these genres caused for students to remain uncontested. A Pedagogy of Multiliteracies allowed students to be guided through a process of learning that brings transformation or change. Stein and Newfield state that the Pedagogy of Multiliteracies (New London Group 1996; Cope and Kalantzis 2000) pedagogic framework considered the relationship between language and literacy education and changes like "the globalisation of communication and labour markets, a rapidly changing English language, unprecedented technological change, [and] cultural and linguistic diversity" (2006: 1). Kalantzis and Cope (2015) argued that it is not enough to focus exclusively on learning and adhering to standard language forms in literacy teaching. They argued further that meaning making is multimodal with complex intersections of verbal and "oral, visual, audio, gestural, tactile, and spatial patterns of meaning" (Kalantzis and Cope, 2015: 3). This focus on multiplicity they argue means that academic literacies researchers and practitioners need to increase the kinds of literacies students have access to instead of only focusing on writing in one standard language (Kalantzis and Cope, 2015). A Pedagogy of Multiliteracies also promotes "synesthesia", defined as the type of learning that comes "from mode switching, moving backwards and forwards between representations in text, image, sound, gesture, object, and space" (Kalantzis and Cope 2015: 4).

Originally the New London Group (hereafter NLG) (1996; 2000) proposed that the Pedagogy of Multiliteracies consisted of four dimensions: Situated Practice, Overt Instruction, Critical Framing, and Transformed Practice. Situated Practice can be described as immersing learners into the significant practices of a field or activity whilst drawing on and including their backgrounds, resources and experience (NLG 2000: 33). Overt Instruction refers to pedagogy and interventions used by the teacher or facilitator to support learning so that learners are explicitly aware of what they are learning (NLG 2000: 33). Critical Framing occurs when learning content and

learner experience are contextualised so that learners can understand how knowledge and practices are shaped through historical, ideological, cultural and social systems (NLG 2000: 34). Transformed Practice happens when teachers in collaboration with their students create and develop new practices or demonstrate new ways of being in the world (NLG 2000: 35). Overt instruction is seen as a challenge to the practice of “teaching-as-induction”, described by Lillis (2001) in that it makes explicit what needs to be learned. These four aspects of a Pedagogy of Multiliteracies, play a significant role in contexts, like South Africa, where transformation and change are needed in education.

Scaffolding as intervention and as part of a social practices approach to literacies

My approach to academic and multiliteracies as social practice or sociocultural practice involves the use of scaffolding or supportive practices as an intervention that teaches students what they need to know. Here, I explain my use of the terms, “intervention” and “scaffolding” and why I chose to use these particular terms and practices. Fraser (2004: 210) cites Briar and Miller (1971) who define intervention as “an attempt to induce change selectively” and to mediate experiences through information, opportunities and feedback. I chose the term “intervention” to signal that the mediation and scaffolding that I provided the students, was not designed in the cycles of an action research process but instead responded to student need and shifting contextual conditions such as the student protests (#FeesMustFall 2016). As a result, the mediation or scaffolding had some aspects that were repeated and other aspects that were used in specific instances only. My use of scaffolding draws on the work of Hammond and Gibbons (2005) and Gibbons (2009; 2015) who researched empowering ways to support learners who have English as an additional language. Hammond and Gibbons’ (2005) conceptualisation of integrated scaffolding consists of designed-in and contingent/interactional scaffolding. Drawing on Vygotsky (1978) as well as Wood, Bruner and Ross (1976) who first introduced the neo-Vygotskian term ‘scaffolding’, Gibbons (2009, 2015) takes a sociocultural approach to learning. Scaffolding, writes Gibbons (2015), is the temporary support given by a teacher to a learner which eventually enables the learner to complete similar tasks independently.

This support whilst providing assistance is “future oriented and aimed at increasing a learner’s autonomy” (Gibbons, 2015: 16). Scaffolding is a particular approach to teaching and learning that acknowledges the need for student/learner support, a need often generated by historical events and sociocultural circumstances.

Gibbons (2009) views the role of scaffolding as important to the sociocultural approach to learning especially in literacies and language teaching. A sociocultural approach to learning that includes scaffolding argues Gibbons (2009; 2015), provides a different view of learning and teaching compared to two of the dominant approaches to teaching and learning namely, the transmission approach and progressive approach. The teacher dominant “transmission approach” views learners as entities that are “empty” and without resources that are relevant who then need to be filled with knowledge from the teacher, the source of knowledge. Gibbons writes that in maintaining the dominance of the teacher, “Transmission-based approaches work against the central principles of language development, namely that using the language in interaction with others is an essential process for both first and second language learning” (2009:15). In contrast, the other dominant approach, the “progressive approach” views learners as constructors of their own knowledge and the “role of the teacher is to ‘facilitate’ this learning through the stage management of appropriate learning experiences” (Gibbons, 2009: 14). Progressive pedagogy, though it takes a different approach than the transmission-based approach, in that it focuses on the learner and uses learner-centred activity, is often critiqued “because of its lack of explicit teaching, especially in relation to language” (Gibbons, 2009: 15). Though these ideologies are very different, there is one similar aspect, “they both view learning as essentially an individualistic activity and the learner as independent of others and self-contained” (Gibbons, 2009: 15). In taking a progressive stance, the focus is on learners making their own ‘discoveries’ and on learner ‘independence’. However, this is often done without acknowledging fundamental absences and gaps arising from contextual and sociocultural conditions and constraints.

In contrast to the progressive approach and its focus on independence, the sociocultural approach drawing on Vygotsky, states Gibbons (2009), proposes that learning is bound to social context and is a collaborative or social activity. From this perspective, a person’s “intellectual and linguistic development is seen, to a

significant extent, as the product of his or her education, not a prerequisite for it to occur” (Gibbons, 2009: 15). In higher education especially, the prerequisites of knowledge are well established as it is a tiered system and while subject content is taught, the literacies and multiliteracies practices in the disciplines are seldom explicitly taught whilst independence and self-discovery are promoted (Lillis 2001; Creme and Lea, 1997; and Ivanič 1998). A sociocultural approach to learning, no matter the level of student, acknowledges that with support or scaffolding, “learners can reach beyond what they can reach unaided, participate in new situations, and take on new roles” (Gibbons, 2009: 15). Scaffolding for Gibbons (2009) has three characteristics: the support is temporary and helps the learner “move toward new concepts, levels of understanding, and new language”; secondly, it assists the learner with “*how to do something* (not just what to do)” allowing them to learn how to do tasks and then do them alone; and thirdly, is “future oriented” providing support today for independence tomorrow (15) (*italics in the original text*).

Hammond and Gibbons (2005) identify two types of scaffolding, designed-in scaffolding and interactional/ contingent scaffolding. Gibbons defines designed-in scaffolding as “planned support – those activities consciously selected to scaffold learning” and selected before any teaching (2009:153). While interactional or contingent scaffolding is unplanned and takes place in the moment during teacher and student interaction or while students are interacting (Gibbons, 2009: 154). Both types of scaffolding are important and together form an integrated approach to scaffolding. In my role as academic literacies facilitator to the five student teachers who were my participants, I have used an integrated approach both designing scaffolding and engaging in interactional or contingent scaffolding as required by the students or circumstances. The details on the types of scaffolding that I engaged in during my intervention are provided in Chapter 3, where I discuss my methodological framework. While I have made some connections above between academic literacies theory and history in the United Kingdom, Australia, and the United States and the way these theories have influenced and been taken up by academic literacies practitioners, researchers, scholars and facilitators in South Africa, I discuss these connections in greater detail below.

Academic literacies in South Africa

Historically academic literacies as a field in South Africa has focussed on assisting students from under resourced communities suffering from the disadvantages of apartheid segregation and education with meeting the literacies demands of HE institutions. The academic literacies field in South Africa, whilst drawing on theories and practices from the United Kingdom, Australia, and the United States of America, amongst other contexts, is shaped by two distinguishing aspects: the linguistic context and colonial history. The fact that the majority of South Africans are multilingual and only a small percentage of people, less than 10%, are English first language speakers as well as a history steeped in colonialism and apartheid play an important role in shaping academic literacies practices. However, the autonomous skills approach is still one of the dominant approaches to literacy though there has been, as Jacobs notes, a move toward “the academic socialisation model (which sees literacy as acculturating students into disciplinary discourses and focuses on disciplinary genres)” (2013: 128). As in the UK, the skills approach in South Africa may be implemented via courses like Academic Development (AD) and English for Academic Purposes (EAP) courses that focus on teaching English grammar and generalised ‘neutral’ reading and writing skills (Boughey and McKenna, 2016: 2). A critique of AD and EAP courses is that in focussing on grammar and essay structure without demonstrating how writing and discourses shift for different subjects and disciplines, these courses with their general examples and assignments sometimes overburden already struggling students with writing and reading not directly related to their course content. But whether AD and EAP courses are transformative and critical or normative, cannot be clearly defined based on the name of the course or the use of the terms “literacy” or “literacies” because in South Africa, as in the UK, Australia and elsewhere, this not a clear indication of whether the academic literacies practices and approach are transformative or not. Despite the dominance of the skills approach, there are practitioners within very constrained institutional conditions working to include transformative approaches and there are programmes and projects still named AD or EAP, though their ideology and practices may be critical and transformative.

Influences on academic literacies in South Africa

Several theoretical strands have influenced academic literacies in South Africa significantly. These are the New Literacy Studies, the genre approach, the critical literacies approach, specifically the work of Fairclough (1995; 2010) and the Pedagogy of Multiliteracies of the New London Group. South African scholars, Thesen and van Pletzen state that New Literacy Studies (hereafter NLS) was influential because it drew on the idea of literacies as a social practice and the “socio-political understandings of multiple literacy practices [which in the multilingual South African context] means that local practice will always be essential in theory building” (2006: 13). Despite support for the NLS approach, the use of NLS has not been uncritical. Thesen and van Pletzen critique the NLS approach for its lack of impact on policy (2006: 12) and caution that “theories and materials originating from very different social worlds where English is spoken by a vast majority of the population do not necessarily translate to our conditions of learning and teaching” (2006: 17) where English is the additional language of most of the population.

Another approach influential in academic literacies in South Africa is the genre approach. Genre theory or the genre approach (Cope and Kalantzis 1993) can be used to close the gap between school learning and the demands of HE because it teaches students who are learning in their additional language the varied written forms required by each discipline. Luke (1996: 136) states that the justification for the use of the genre approach is the argument that educational institutions often employ “implicit, unstated and elitist criteria for performance and achievement which have the effect of excluding marginal socioeconomic, cultural and gender groups”. The genre approach can be used to address unequal access to academic literacies by “making explicit and attainable the criteria through direct instruction that transmits mastery of ‘genres of power’ from the dominant culture” (Luke, 1996: 316). One of the critiques of the genre approach is the expectation of a hypodermic effect as a result of explicit literacy instruction, whereby students are expected to understand literacy practices immediately as if these were directly administered or “injected” into the students bodies and immediately absorbed and understood (Luke, 1996). Even though Luke’s (1996) critique is acknowledged, in the South African context such an explicit approach is used to address several aspects of literacy. Students’, for example, must be taught expository writing in higher education because there is

more emphasis on narrative writing in most schools (Dornbrack and Dixon 2014) and the expository writing demands at university are more complex than the writing taught at school. Paxton (2011) argues that teaching students the required genre conventions provides students with access to learning different types of texts so that they can focus on other aspects of writing such as argument and analysis. This is important especially for teacher education students who need multiple literacies, including extending and broadening “everyday literacies”, and who may need to “move between discourses and across genres, making meaning in different fields and for different audiences” (Devereux and Wilson 2008: 121-122).

Some academic literacies researchers, scholars and practitioners in South Africa may take a transformative approach to address educational inequality due to the legacy of apartheid. Their focus is on teaching both academic writing and also on teaching critical literacies theory and practice (Thesen and van Pletzen 2006; Boughey and McKenna 2016). According to Janks (2002: 9) one aspect of critical literacy involves “teaching students’ critical deconstruction” by analysing “words and images to see what political work they are doing”. For example, academic literacies scholars like Kapp and Bangeni (2005) designed a course that provided students with both academic and critical literacies approaches and practices. Their course was designed for undergraduate students coming from poorly resourced schools and who were multilingual and aimed to help students build the requisite HE literacies and competencies that the students had not learned at school.

Multiliteracies, multilingualism and multimodality in South Africa

One other significant influence on academic literacies in South Africa is the Pedagogy of Multiliteracies (New London Group 1996; Cope and Kalantzis 2000) also known colloquially in South Africa as “Multiliteracies” theory. The four aspects (Situated Practice, Overt Instruction, Critical Framing and Transformative Practice) of the Pedagogy of Multiliteracies approach are productive for transforming normative approaches to academic literacies in South African HE. The New London Group states that the four aspects need not be implemented in a cyclical process and each aspect can be drawn on as appropriate. Like other academic literacies researchers (Stein and Newfield, 2006; Boughey and Mckenna, 2016) I have used the Pedagogy of Multiliteracies to broadly frame the academic literacies aspects of my intervention and have chosen to draw on the different aspects selectively where relevant. For example, Situated Practice, recognises the importance of both student context and disciplinary and institutional demands in shaping learning and I have used this idea as a guiding principle to support the students with meeting the academic literacies demand of the PGCE Programme. Overt instruction is an important practice for making academic literacies practices known to students because the aim of overt instruction is to “shift from tacit knowledge of the norms and conventions of disciplines to explicit teaching of these norms and conventions” in order to make this knowledge conscious to students (Jacobs 2013: 126). Critical Framing addresses the need to teach student teachers how the ideological and socio-historical policies and practices shape learning, for example the role language ideology and colonialism play in how schools and universities select their language of instruction. Transformed Practice, refers to the way teacher and student collaboration can change pedagogy in ways that can improve aspects of learning.

A Pedagogy of Multiliteracies is also influential in South Africa because this approach includes multiple languages and multiple modes as part of academic literacies research and practice. The inclusion of multiple languages and modes by academic literacies practitioners and researchers who work in disciplines like science or technology is where academic literacies as a field in South Africa has expanded. Archer (2006), working on multiliteracies and multimodalities in South Africa contests the visual/verbal divide and argues for a multimodal approach to researching academic literacies stating that meaning is diffused across modes.

Critiquing the logocentrism of some academic literacies courses, Archer (2006: 10) writes, that “the verbal is often prioritised over the visual, and I argue that these courses should take cognisance of the different modal realisations of scientific discourse”. While Archer (2006) emphasises the multimodal in academic literacies, Stein and Newfield (2006: 5) argue for the importance of multilingualism to conceptualisations of a Pedagogy of Multiliteracies and multimodal theories. South Africa is one of the few countries where multilingualism has been foregrounded in multiliteracies practice (discussed further below, with regards to Garcia and Kleifgen, 2020). Stein and Newfield argue that teaching and learning can be seen as “ensembles of communication” that are multimodal and multi-layered, often employing space gesture, images, writing and speech, all influenced by context and power (2006: 2). Viewing teaching and learning as multimodal also opens space for teachers and learners to use images, video and demonstrations which are beneficial when students are still learning English, the language of instruction. However, the use of multimodality is often constrained by a lack of resources or lack of teacher training and agency.

Multiliteracies and multimodality for science teachers

The theoretical framework of this research includes academic literacies theory like the Pedagogy of Multiliteracies, an approach that includes multimodality, as the student participants are learning to be Science teachers and Science as a field uses multiple modes. Jacobs (2013) notes that often there is uneasiness when academic literacies practitioners “stray” into subject specialist areas and unease when subject experts “stray” into academic literacies since there are rarely people with both academic literacies and subject expert knowledge. Jacobs (2013) advocates for collaboration as a way of making sure that academic literacies in the disciplines is productive. Jacobs (2013: 133) notes that HE in South Africa needs to encourage “collaborative partnerships between academic literacies and disciplinary specialists and faculties need to create discursive spaces within their curricula for sustained collaboration of academic literacies and disciplinary specialists”. Though I did not work with a subject expert, in this study, the importance of this type of collaboration makes this an important future consideration me.

Kress, Jewitt, Ogborn and Tsatsarelis (2014) (hereafter Kress, Jewitt, Ogborn et al) describe why learning through multiple modes is important, especially in science classrooms where the language/verbal mode is only one of several modes used by both teachers and students. They also argue that multiple modes are concurrent and synchronous which means that “*meaning resides in all of them and that each contributes to the overall meaning of the multimodal ensemble in quite specific ways*” (italics in the original) (Kress, Jewitt, Ogborn and Tsatsarelis 2014: 1). Speech, reading and writing are seen as part of meaning-making together with other modes. Lemke, writing from a science education perspective states that taking a sociocultural approach to science education means “formulating questions about the role of social interaction in teaching and learning science and in studying the world, whether in classrooms or in research laboratories” thus acknowledging science as an embodied practice as well as a multimodal practice (2001: 296). However, it is not just multimodality in science education that the student teachers have to negotiate but they must increasingly negotiate the impact of new technologies on teaching. A Pedagogy of Multiliteracies acknowledges that the use of technology in schools and teacher education has increased the range of literacies practices needed by students and that in teacher education courses, the use of technology has changed everything from teaching practices and assessment to the curriculum (Devereux and Wilson, 2008: 123).

The Pedagogy of Multiliteracies’ focus on equity and social justice makes it particularly appropriate for literacy education in postcolonial and decolonial contexts. In Stein and Newfield’s (2006: 5) words, the New London Group’s focus on plurality allows “indigenous, local epistemologies, languages and literatures to co-exist alongside standard English and canonical English literature and culture”. The plurality of modes and languages, and how indigenous languages can and should co-exist with English in learning contexts, requires further development and research. Next, I discuss how some scholars have started to focus on how student language resources and multiple languages can play a role in academic literacies learning and teaching in HE.

Repertoire and repertoires of practice

Kusters (2021: 183), notes that there has been “a revitalisation in the use of Gumperz and Hymes’ (1972) notion of the verbal repertoire, meaning ‘the totality of linguistic resources (i.e., including both invariant forms and variables) available to members of particular communities’”. According to Kusters, “many scholars have used the term ‘repertoire’ to talk about these features as a collection of resources that people deploy in their interactions” (2021: 183). For example, Otheguy, Garcia and Reid (2015) refer to a speaker’s “linguistic repertoire” (2015: 281). While Gutiérrez and Rogoff (2003: 22) refer to people’s linguistic and cultural-historical repertoires which they state refer to people’s “ways of engaging in activities stemming from observing and otherwise participating in cultural practices”. The word, “repertoire” has come to include and refer to more than just language for example, the words “semiotic repertoire” refers to a broader system of signs and the multiple ways that people can express themselves often simultaneously when they communicate using “speech, image, text, gesture, sign, gaze, facial expression, posture, objects and so on” (Kusters 2021: 183). Researchers and scholars working with translanguaging (Canagarajah, 2013; Garcia and Wei, 2014) have explored the way communication and people’s resources involve collections or “repertoires” of multiple languages and multiple modes. Also linked to social semiotics is the idea of multimodal repertoire and Jewitt states that “Multimodality approaches representation and communication as something more than language” (Jewitt, 2008: 1). Multimodality, as an area of research, “attends to the complex repertoire of semiotic resources and organizational means that people make meaning through— image, speech, gesture, writing, 3-dimensional forms, and so on” (Jewitt, 2008: 1). In Education, states Jewitt further, while “a multimodal approach rejects the traditional almost habitual conjunction of language and learning”, it refers to “looking at language as it is nestled and embedded within a wider social semiotic rather a decision to ‘side-line’ language” (Jewitt, 2008: 1). Also researching the use of multiple modes in learning, Gutiérrez (2008: 149) states that traditionally, student development is measured vertically over time or a curriculum, however, the “notion of repertoires of practice” is a more expansive conceptualisation of development and includes “forms of expertise that develop within and across an individual’s practice” in school and elsewhere. I use multimodal repertoire (Jewitt 2008) to refer to building

or expanding the range of students' knowledge and practices across multiple modes and 'repertoires of practice' to refer to the students' developing practices and learning within and across (Gutiérrez and Rogoff, 2003; Gutiérrez, 2008) the PGCE programme and the intervention to become successful teachers.

Translanguaging and academic literacies in HE and teacher education

I include translanguaging theory as part of my theoretical framework because the movement between languages remains a significant part of how the majority of multilingual teachers and learners in South African schools manage learning in English, their additional language or second language. According to Baker (2003), it was Welsh educator Williams (1994) who "coined the term *trawsieithu*" to refer to using both Welsh and English in a literacy lesson. It was Baker (2003) who translated the term "*trawsieithu*" into the English term "Translanguaging" that is known and used currently (Garcia and Kleifgen, 2020: 555). Though still a developing area of research in Education and pedagogy, translanguaging as theory and practice has been taken up globally by researchers, scholars and practitioners working in multilingual contexts with histories of colonialism and the use of a dominant colonial language as the language of instruction in school. South African scholars McKinney and Tyler (2019: 6), state that the term 'translanguaging' can refer to both a form of pedagogy when designed or a description of everyday multilingual language use, "with emphasis on the description of communicative practices involving a wide range of linguistic and semiotic resources, as well as on the ideological dimension of disrupting a monoglossic and monomodal understanding of language". Translanguaging scholars and researchers may focus only on translanguaging as communicative practice or also include pedagogy designed for the use of two or more languages. Whether the focus is on communicative practice and/or pedagogy, the emphasis is on translanguaging as a practice that disrupts monolingualism and the view that speakers are deficient if they use multiple languages to communicate. Otheguy, Garcia and Reid (2015: 281) define translanguaging as "the deployment of a speaker's full linguistic repertoire without regard for watchful adherence to the socially and politically defined boundaries of named (and usually national and state) languages". Translanguaging

highlights multilinguals' use of a single linguistic and semiotic repertoire and acknowledges that linguistic and racial ideologies affect the way multilinguals are perceived and listened to (Garcia and Kleifgen 2020: 558). Translanguaging allows the dynamism of communication and modes and reconceives literacy as “not simply a pre-established end point toward which multilingual learners need to move, always within the knowledge system of white dominant middle-class speakers” and on a linear path generating texts that are “monolingual and monomodal” (Garcia and Kleifgen, 2020: 567).

By viewing multilingualism as a resource and by placing bi/multilingual speakers at the centre of learning, an academic literacies approach that includes translanguaging theory takes further the position articulated by Lillis, Harrington, Lea and Mitchell (2015: 4) that one of the aims of academic literacies is to make “language and writing visible in meaningful ways in disciplinary activity” and institutionally. In the broader field of academic literacies however, aspects of multilingual experience and using multiple languages as a resource and a right (Ruiz, 1984) need more focus. García and Kleifgen critique multiliteracies research saying, “Despite the New London Group’s support for learners’ multiple languages, subsequent research and pedagogy has turned its gaze away from multilingual readers, writers, and texts” (2020: 553). Instead, the “multilingual was largely excluded from the multimodal” and research was focussed primarily on literacy, multimodality and new technologies (2020: 553). Garcia and Kleifgen argue that a translanguaging pedagogy approach to literacy education would remove the barrier between modes such as spoken, written or signed, and value the creativity of multilinguals, rather than only their ability to conform to pre-existing literacy traditions (2020: 560). This principle of co-existence of multiple modes and plurality aligns with the idea of literacies as social practice and is echoed in theory like a Pedagogy of Multiliteracies and in the work of sociolinguists Garcia and Lin (2009) and Gutierrez (2008).

Canagarajah argues that translanguaging is not a new or recent practice but should be seen as recovering a knowledge that existed in precolonial and “non-Western communities” (2013: 9). Earlier terms for multiple language use like code-switching and code mixing says Canagarajah (2013) stem from a monolingual orientation to language and are based on the “assumption that the codes involved in the mix or the

switch come from separate and whole languages” (p.10). Canagarajah argues that “[l]anguages are always in contact with and mutually influence each other” making the separation of languages with different labels problematic since the labels are not only for descriptive purposes but “[l]abelling is an ideological act of demarcating certain codes in relation to certain identities and interests” (2013: 6). Since communication, states Canagarajah (2013: 6), “transcends individual languages” and “involves diverse semiotic resources”, the rejection of the dominant monolingual orientation to language that separates languages, and the desire to describe multilingual practice, led to a proliferation of terms by various scholars. For example, Canagarajah’s (2013) translingual practice, continua of biliteracy (Hornberger, 2003), poly-lingual languaging (Jørgensen, 2008), translanguaging (Creese and Blackledge, 2010) and dynamic bilingualism and pluriliteracy (Garcia, 2009), to mention a few of these terms.

In South Africa, Makalela (2016) coined the term “Ubuntu Translanguaging” and his work (Makalela, 2017: 29) proposes that multilingual speakers in South Africa, especially those speaking “Bantu” languages or languages of the indigenous people “carry a value of interconnectedness referred to as ubuntu or botho as realized in the injunction: ‘I am because you are, you are because we are’”. Makalela’s “Ubuntu Translanguaging” re-establishes the link with a heteroglossic history that both predates colonialism and that offers a productive position on the experience of multilinguals, acknowledging that multiple languages are a source of connection with multiple experiences. Furthermore, Motlhaka and Makalela’s (2016) study discusses academic literacies research from a bilingual perspective and learning academic writing practices, without disconnecting African home language from the students’ additional language, English. Motlhaka and Makalela (2016) by engaging in academic literacies support using bilingual language resources show how it is possible to use translanguaging as pedagogy but their example requires a fairly homogenous language context in which the academic literacies researchers and the students share the same language resources, in their case Sesotho and English. Focussing on the role of language in assessment, Hurst and Mona’s (2017) research entitled ‘Translanguaging as a socially just pedagogy’, as well as Hurst (2016),

reveal the dynamics of writing assessments in languages other than English as a way of creating equity for multilingual African language speaking students.

In her research on translanguaging as pedagogy, Probyn (2015; 2019) describes the systematic and designed use of students multiple language resources in learning as 'pedagogical translanguaging'. The aim of pedagogic translanguaging practices, says Probyn, is to "open up opportunities for epistemic access, affirm learners' identities and cultures and challenge the prevalent monoglossic orthodoxies in classrooms" (2019: 222). Probyn (2019: 222) in describing the 'pedagogical translanguaging' practices of a science teacher, states that, the teacher "deliberately and systematically engaged with the full range of linguistic resources available to learners in jointly constructing science knowledge ". Paxton (2007) who researched the use of African home languages to support disciplinary learning in English in an economics course, enlisted the assistance of a third-year African language speaking economics student to play a bridging role in explaining economics terminology and practices to first year African language speaking students in isiXhosa. Madiba (2014: 68), who also focusses on using African languages as a resource in the disciplines, draws attention to the important role the creation and use of multilingual glossaries play in "scaffolding concept literacy in different disciplines or content areas at tertiary level". Antia and Dyers' (2016: 7) research investigates "which modes (speech or written) and languages/ language varieties (formal/informal Afrikaans and isiXhosa)" are most useful to students in studying sociolinguistics by providing access to lecture content in audio podcasts and written notes in 'standard' Afrikaans and isiXhosa as well as in urban varieties of these languages. Though research on translanguaging in HE is steadily growing, research into granting epistemic access through practices like translanguaging in HE in South Africa and in teacher education specifically needs more resources. Teacher education as a field has also been identified by various scholars as a crucial area with a need for change around language and literacy. Allan Luke (2004) articulates the need for flexible language repertoires for teachers as:

the challenge facing teacher education, curriculum, and school reform is not to standardize, and implement the one true method, but for teachers to develop flexible repertoires of field, discourse, and text-specific pedagogies, suited to particular textual artifacts, technologies, social and

linguistic/interactional outcomes, and adaptable for students of different cultural and linguistic backgrounds (90).

I will argue that focussing academic literacies research and practice through the lens of decolonial theory is productive for developing the flexible repertoires suggested by Luke (2004), especially since language cannot be separated from learning and communication in Education. The use of translanguaging for communicative purposes such as supporting students use of multiple languages in classrooms and pedagogical translanguaging (Probyn 2015; 2019) requires more research and funding. The way translanguaging and translation are used pedagogically is discussed in this research in Chapter 6.

Decolonial theory and academic literacies

In taking a decolonial approach, I aim to build on academic literacies research that takes a transformative approach as I focus more closely on the PGCE teacher education programme. I draw mainly on the decolonial theory of Walter D. Mignolo (2007: 459), who describes decoloniality as a “means of working toward a vision of human life that is not dependent upon or structured by the forced imposition of one ideal of society over those that differ”. In the course of my discussion on decoloniality, I also refer to important contributions to the field by Maldonado-Torres (2007) and Quijano (2007) amongst others. I include decolonial theorists like Ngũgĩ wa Thiong'o (1986), Ndlovu-Gatsheni (2012) and Mbembe (2015) who have influenced decolonial theory in South Africa and Africa. My research draws on decolonial concepts such as, coloniality (Quijano, 2007) and the following concepts from Mignolo (2007) namely, the double movement of decoloniality, delinking, entanglement, border thinking and pluri-versality. Mignolo states that decoloniality involves a constant double movement between unveiling epistemic violence and “affirming the modes and principles of knowledge that have been denied” by giving voice to that which has been silenced and erased (2007: 463). In the field of academic literacies, an example of the epistemic violence Mignolo (2007) refers to is located historically in colonial practices that continue in our current experiences in HE in South Africa such as: the pressure to conform to English as the sole language

of instruction and the denial of the multilingual context, as well as opaque essayist writing practices (Lillis, 1999) and the uncritical reproduction of knowledge originating during the colonial era.

Coloniality in Education and academic literacies

The concept of coloniality provides my research with a means to describe the ongoing practices in education and literacy that emerged during colonialism and apartheid which continue in the present in South Africa. One pervasive pattern is the continued use of colonial languages like English and the erasure of indigenous African languages which remain under-resourced and ignored or devalued. Quijano conceptualised coloniality as longstanding, pervasive and continuous patterns of colonial ideology and power relations that shape and influence the world long after countries have reached political independence (2007: 170). Quijano describes these power relations as ‘matrixes of power’ which for example, “involve control of subjectivity and epistemology, gender and sexuality; authority and power; labour and economy; religion and rituals” and other forms of social experience (Ndlovu-Gatsheni 2012: 73). In the field of academic literacies, examples of colonial matrices of power are theories that promote the great divide between ‘oral’ and ‘literate’ cultures, challenged and deconstructed by scholars like Street (1984). Other examples of colonial matrixes of power in academic literacies are Street’s (1993) autonomous/ideological models of literacy and debates around monolingualism/multilingualism or language as a problem/ language as resource (Ruiz, 1984).

Mignolo (2007) draws on Peruvian sociologist Quijano’s (2007) concept of coloniality and links it to the creation of modernity and Europe. Mignolo (2007) refers to coloniality as the ‘darker side of modernity’ and states that “Modernity appears when Europe affirms itself as the ‘centre’ of a World History that it inaugurates: the ‘periphery’ that surrounds this centre is consequently part of its self-definition” (453). Part of the rhetoric of modernity, involves the colonisation of time and space, lack of ‘co-evalness’ or equality, hierarchizing race and the creation of colonial others in the form of “primitives” and “barbarians”. In Mignolo’s (2007) words “coloniality is constitutive of modernity” represented as modernity/coloniality as in his view “there is

no modernity without coloniality” (476) since economically, socially and epistemologically, modernity was built on the colonial extraction and exploitation of natural and human resources. Similarly, Quijano’s (2007) view that coloniality and the colonial matrixes of power continue to influence human experience is echoed by Maldonado-Torres (2007) when he states that coloniality:

is maintained alive in books, in the criteria for academic performance, in cultural patterns, in common sense, in the self-image of peoples, in aspirations of self, and so many other aspects of our modern experience. In a way, as modern subjects we breathe coloniality all the time and every day (Maldonado-Torres 2007: 243).

Maldonado-Torres (2007) implicates coloniality in “books and the criteria for academic performance”, two significant aspects of both HE and academic literacies as a field. Maldonado-Torres’ (2007) words “we breathe coloniality all the time and every day” are reminders of the pervasive patterns and ideologies that have been normalized and that we no longer question.

Mignolo’s (2007) response to continuing modernity/coloniality is the formulation of concepts such as delinking, border thinking and pluri-versality. One strategy of delinking is “challenging the universal frame of experience” says Mignolo which allows us to create conditions that allow previously silenced knowledge, languages and experiences to be recognised and valued as knowledge practices (2007: 494). Transformative academic literacies through theorising literacies as social practice converges with decoloniality and questions the “universal frame of experience” in HE by challenging institutional conceptions of the ideal student as middle class, white, male and English monolingual. The work of academic literacies scholars such as Lillis (2001; 2019), Lea and Street (1998) and Ivanič (2001) as well as South African scholars Kapp and Bangeni (2011); Jacobs (2013); Thesen and Van Pletzen (2006) and Paxton (2007) on writing, language and identity, show how and why the university environment can be an alienating learning space for black and or working class, African language speaking students.

The aim of delinking is a decolonial epistemic shift that brings to the foreground ‘non-western’ epistemologies, principles of knowledge and understandings and, consequently, other economy, other politics, other ethics (Mignolo 2007: 453) including other languages. Language, and the language of teaching and learning in

South Africa, is contentious as we debate the use of English as the language of instruction in a multilingual country with 11 official languages. In maintaining English as the only language of instruction, South Africa maintains the colonial matrix around language and the status of English as the dominant language of knowledge production. Mignolo (2000: 40) asserts that six modern colonial European languages are seen as languages that produce knowledge: Italian, Spanish, and Portuguese, which were the languages of the Renaissance and then French, German, and English, which were the dominant languages from the Enlightenment to the present day. These languages “remain the hegemonic languages of scholarship and world literature” (Mignolo, 2000: 40).

Mignolo (2007) draws on Anzaldúa’s (1987) conception of ‘borderlands’ as a new space of enunciation which he describes as ‘border thinking’. The border or “the border space” is where since 1500 “Western knowledge and subjectivity, control of land and labour, of authority, ways of living gender and sexuality have been ‘contacting’ other languages, memories, principles of knowledge and belief” (Mignolo 2007: 497). Border thinking says Mignolo, in an interview with Delgado and Romero, “allows you to imagine possible futures in which the richness of thought and creativity in language comes from the borders. More specifically, from the subaltern side of the border” (Delgado, Romero and Mignolo, 2000: 13). The aim of border thinking and creating border epistemologies is not to replace existing fortified colonial narratives and epistemologies but to create and claim a “space for an epistemology that comes from the border and aims toward political and ethical transformations.” (Delgado, Robero and Mignolo, 2000: 11).

This idea of creating space for enunciation and knowledge production is echoed by Ndlovu-Gatsheni (2015) who describes decolonial theory as a “critical intellectual theory as well as a political project” aimed at rupturing coloniality (489). What distinguishes decoloniality from other existing critical social theories, for Ndlovu-Gatsheni, is “its locus of enunciations and its genealogy—which is outside of Europe” (2015: 489). Attempts to create sources of knowledge outside of Europe or to reframe and reclaim existing knowledges lie in the transformative agendas in learning and practice that take place in local institutions and schools in local

languages. But these attempts are also always, using Mignolo's (2007) concept, 'entangled' or intricately enmeshed at the level of epistemology and ontology with Europe, the United Kingdom and USA. Delpit's (2006) argument that under-resourced and disenfranchised "members of society need access to the dominant discourses to (legally) have access to economic power" and that "individuals have the ability to transform dominant discourses for liberatory purposes" helps me understand entanglement (162). Mignolo's (2007) 'entanglement' offers a way to recognise the position of transformative academic literacies research that supports student access to dominant literacies in English whilst also focusing on changing and challenging these discourses by creating space for other languages and other knowledges. Mignolo's concept of pluri-versality which he describes as "a world in which many worlds could co-exist" can only be created "by the shared work and common goals" of everyone inhabiting the many co-existing worlds "where differences are not cast in terms of values of plus and minus degree of humanity" (2007: 499).

The decolonial turn

Maldonado-Torres (2011) notes that the use of decolonial theory is widespread enough that he can speak of a decolonial turn. While Maldonado-Torres (2011) acknowledges that the decolonial positions taken up are heterogenous and diverse, he notes that there is agreement amongst those working with decolonial theory that coloniality is a significant problem globally. In Maldonado-Torres' (2011) view, decolonization or decoloniality is a task that is incomplete and continues to unfold. Decolonization continues as a project due to "the refusal to segregate epistemology from ethics, politics, and other areas of human creation" (Maldonado-Torres, 2011: 10). Next, I discuss the relevance and resonance of decolonial theory and the decolonial project in Africa and South Africa.

Decolonial theory in Africa and decolonising the mind

Decolonial research, in Africa and South Africa, includes the work of Ngugi wa Thiong'o (1986) and Fanon (2008), as both scholars address the African experience of colonialism and link colonialism and imperialism to politics, economics, culture, writing and education. In "Decolonizing the mind", Ngugi (1986) critiqued the

universalisation of European scholarship stating that in education, “The images [African] children encountered in literature were reinforced by their study of geography and history, and science and technology where Europe was, once again, the centre” (1986: 1142). Mbembe (2015) states that Ngugi (1986) believed that decolonization was not a conclusive point but the beginning of a struggle around what should be taught to the African child. Mbembe notes similar patterns in HE and identifies the university classroom, as “Another site of decolonization” (2015: 6). The #RhodesMustFall (#RMF) and #FeesMustFall (#FMF) student protests have shown that there is a need for further change and transformation decades after apartheid. The students reading and quoting of Fanon’s *Black Skins White Masks* (2008) during the protests in 2015 and 2016 show that the decolonial project remains incomplete and continuous. Mbembe considers Fanon’s views on decolonisation as a framework “of possibility – possibility of a different type of being, a different type of time, a different type of creation, different forms of life, a different humanity – the possibility to reconstitute the human after humanism’s complicity with colonial racism” (2015: 6).

While Mignolo (2007), Maldonado-Torres (2011) and Ngugi (1986) refer to decolonisation as an open-ended starting point, their position stands in contrast to theorists who attempt to limit and hierarchize decolonial theorising. Tuck and Yang (2012) warn researchers and scholars against using decolonial theory selectively arguing that ‘Decoloniality is not a metaphor’ for critical race theory or social justice projects and efforts. Stein and Andreotti (2015) also caution against the ‘easy uptake’ of decolonial theory, focusing on decolonial efforts in HE with institutional change as the goal. They rank decolonial projects from most to least effective in relation to the extent of institutional change that was achieved. Yet most scholars and researchers engaging with decolonial theory and projects agree with Maldonado-Torres (2007) that we ‘live and breathe coloniality every day’ (a powerful metaphor) and that coloniality leaves no aspect of human experience untouched. Thus, the decolonial project must remain open as Mignolo (2008) suggests and a beginning point as Ngugi (1986) suggests because it is going to take all efforts to disengage, redress, reveal, rewrite and reversion our practices including drawing on and reinterpreting past transformative theories and practices to revision a different present and future.

Academic literacies and the decolonial turn

The extent to which academic literacies practices can take a decolonial lens and a decolonial turn to enact change has to be considered. Most academic literacies practitioners do not have complete control over the content of their courses and play a supportive role in assisting students with passing assignments that are set and assessed by subject or discipline-based lecturers. This research for example, is based on working with students learning to be science teachers on their PGCE Programme content assignments and working with their understanding of what counts as science. Conventional thinking around science is rooted in Western knowledge systems and students' knowledge and practices must conform to university demands which keeps this knowledge entrenched and unchanged. The #RMF (2015) and #FMF (2016) student protests ruptured this cycle and during the protests, the students called for a re-examination of the curriculum. As an academic literacies practitioner, I am also implicated in teaching students' academic conventions unless I decide to, as Delpit argues, "transform dominant discourses for liberatory [and de-colonial] purposes" (2006:162, my addition). I also wish to suggest that though change may not be visible or tangible immediately, this does not mean that transformative acts are not happening. We teach students and cannot see the effects of change when this takes place outside of the university or after graduation. The student protests in 2015 and 2016, were unanticipated but intense enough to create both a significant crack in the system and a domino effect which forced students and staff to decide on whether to participate in initiating institutional change or not.

My research carries the intent and echoes of the student protests as the data collection period spanned the 2016 #FMF student protests. My research also forms part of a broader focus on institutional change initiated by the student protests such as continuing student calls for de-colonised education and curricula. Evidence of the effectiveness of political pressure is that the South African department of Higher Education has since produced a new language policy for HE. Institutionally, at the university that was the research site, the pressure for change has resulted in the formation of the Curriculum Transformation Working Group which produced a report

that suggests where change needs to occur. Individual lecturers also made decisions on how they would initiate change through their course provision or by adopting a more inclusive and supportive stance toward multilingualism, for example. These processes and practices address aspects of coloniality that were previously overlooked and continue to happen at different institutional levels, over time and with varied levels of efficacy. Maldonado-Torres challenges the need for linearity and completion arguing instead for open-endedness stating that decolonization or decoloniality is a “necessary task that remains unfinished” (2011: 3).

Using decolonial theory as a lens also allowed me to look critically at the “power relations of language” (Christie and McKinney, 2017:1) in universities and how they manifest in teacher education programmes like the PGCE. Probyn (2015) states that in South Africa, there are very few formally designed bilingual/multilingual teacher education courses. Probyn also notes that “There is a need for the development of systematic and appropriate use of both languages [English and isiXhosa/African languages] in the classroom” and that this should be “backed by appropriate resources, which will bridge the current gap between languages and modes in practices that open access to the curriculum” (2015: 220). In broader terms the multilingual reality of our world and the need to acknowledge this in education is reflected in Maybin’s argument that there is a “shift from static to dynamic conceptions of texts” (2017: 416) and she identifies multilingualism as one of the ways in which this dynamism is both expressed and a way that monolingual texts are challenged. I designed an academic literacies intervention that explicitly taught students a wide range of academic literacies practices and provided multimodal learning opportunities. An expanded version of academic literacies is an iteration of pluri-versality in that it draws together multiple modes and multiple texts to delink from autonomous skills approaches to academic literacies and to challenge the dominance of English monolingualism in South African education.

Delinking and pluri-versality in academic literacies

I argue that though there are some aspects of autonomous literacies we have to delink from, there are other practices with which we remain entangled and we may have to accept this entanglement as part of pluri-versality. In this research, my

entanglement is expressed in my position as a “knowledgeable insider” as I was both the academic literacies facilitator supporting students’ coursework assignments and designing and implementing practices that challenged institutional language practices. Lillis (2001: 9) cites Harris’ (1992) explanation of a “Knowledgeable insider” as a person who is “viewed by the student writers as someone who knows more about the conventions that they are expected to write than they do”. The notion of entanglement is also expressed in the seemingly contradictory aim of the intervention which was to both provide access to conventional forms of academic writing such as the essay and to subvert the primacy of English literacy in academia by making students aware of multimodality and introducing them to additional learning spaces.

I would argue that Mignolo’s (2007) pluri-versality includes the use of multiple languages as advocated by translanguaging theory. As translanguaging pedagogy is still developing, I used Gibbons (2009) and Dong’s (2011) research on how to work with and develop pedagogy for English Language Learners (ELL) as starting points to create learning opportunities for the student teachers. My aim was to introduce the African language speaking student teachers to examples of bi/multilingual teaching strategies so that they could implement them in the future. Contrary to the conventional practice of simplifying the curriculum for multilingual learners struggling with academic literacies in English, Gibbons (2009) argues that multilingual learners should receive a high level of support for complex tasks and she uses practices such as the “amplification of meaning” (Gibbons 2009: 156) and “message abundance” (Gibbons 2009: 156) as a means of offering a high level of support to English Language Learners in school. Gibbons’ (2009) idea of the “amplification of meaning” includes using multiple modes to “present key ideas in multiple ways” (156). I did this by including multilingual and multimodal practices in my intervention to disrupt the students’ earlier experiences of text-bound science learning to practical embodied science. My research takes Gibbons’ idea of amplification of meaning to “amplifying the curriculum” and in doing so I explore how student teachers can be taught different ways to negotiate future multilingual classroom contexts in ways that are pedagogically beneficial for learners. Drawing on Gibbons’ idea of “high challenge” and “high support”, my intervention was conceived around the idea of providing a

high level of academic and multiliteracies support for African language speaking students.

The desire to delink from matrixes of coloniality and re-envision a different reality is part of the decolonial process. Mignolo's decolonial concept of pluri-versality, converges with a Pedagogy of Multiliteracies and translanguaging theory in that all three approaches focus on accepting multiplicity and these theoretical approaches envision an openness to accepting multiple, even contradictory, perspectives and multiple languages. Drawing on the aspect of multiplicity, an aspect of convergence in all three theoretical approaches mentioned previously, I used visits to outside of university spaces to provide interactive learning experiences that were different from the students' schooling experience which they described as desk-bound, relying on memorisation of facts and lacking in resources. I designed the academic literacies intervention to promote three main aspects: firstly, to support students' academic literacies development; secondly to support the use of multilingualism as a teaching strategy and thirdly to take students to different spaces and into sites they had not visited previously. These site visits I argue played a role in mediating learning since students were exposed to new artefacts and different types of writing like for example, the explanations and directions for activities found at the sites. Working with objects or viewing three-dimensional representations, including sound, touch and smell allowed students to gain a deeper understanding of certain learning areas that allowed them to teach a subject with experience and confidence. Edwards and Clark (2002) state that "Interaction and change need multiplicity" and cite Geographer Doreen Massey's (1999) view, that "Multiplicity creates a sphere in which distinct stories coexist, meet up, affect each other, come into conflict or co-operate." (158).

In my study, remediating learning happens through visiting four outside of university sites, namely a Science Centre, Natural History Museum, student conference and a theatre. These sites, I argue, provided learning opportunities filled with multiple experiences, texts and activities. As multiplicity is important for science learning and for remediating the experience of science teachers, experiential learning and engaging in learning as social practice that involves material action is also important. Lemke (1998) argues that in science and in learning, thinking involves material

action. Lemke (1998) states that experiential learning is especially important for learning science because “thinking is a kind of material action”,

conducted not just in and by the human brain, but by the whole body, making constant use of material tools and artifacts in the environment, and interpreting its own actions and their results by means of socially learned and culturally specific systems of meaningful signs, such as the languages of words, diagrams, and mathematical symbols (1998: 3).

This awareness of multimodality and the embodied, social nature of learning informed my design of the academic literacies intervention and is expressed theoretically in a Pedagogy of Multiliteracies and pluri-versality. Mignolo’s (2007) construction of a pluri-verse that is not exclusionary and non-hierarchical allows a multiplicity of experiences and foci. The aim of the pluri-verse is to counter the provincial European claim to universality, namely that the European experience, languages, knowledge systems and world view is suitable for all. Whether the greater goal of decolonial theorising is institutional change or supporting students in academic writing like my research, I argue that there is legitimacy for all decolonial projects in the pluri-verse and that applications of decolonial theory are going to draw from multiple theories and fields, or as in the case of this research, on language and literacies as social practice, academic literacies and multiliteracies.

Conclusion

To construct my argument theoretically and build a conceptual framework I drew on the following primary theories: academic literacies, specifically the autonomous and ideological models of literacies and literacies as social practice which allowed me to examine the academic literacies demands of the PGCE programme from the students’ perspectives. Part of expanding academic literacies practices for students learning to be science teachers was a movement from focussing on student texts in English to including other modalities and languages and a movement toward a Pedagogy of Multiliteracies (New London Group, 2000), an academic literacies theory that advocates for the use of multimodality and multilingualism. I also applied aspects of the Pedagogy of Multiliteracies, namely, Situated Practice, Overt Instruction, Critical Framing and Transformed Practice to my data analysis chapters.

My use of decolonial theory allowed me to examine how the students' experiences of literacies in education was constituted historically and ideologically through government educational policies and through practices that implemented these policies institutionally in schools and HE institutions. Decolonial theory allowed me to explain why teaching academic literacies practices in multilingual contexts like South Africa cannot have English monolingualism and knowledge-making in English as the only acceptable goal of education. These theories facilitated envisioning a space of experimentation and re-configuration and allowed me to include student experiences in outside of university spaces and sites. A Pedagogy of Multiliteracies and decolonial theory also provided the validation for including translanguaging theories and to take introductory steps toward broadening academic literacies practices for African language speaking student teachers. In essence, what this research tried to discover and demonstrate was how a decolonial approach to academic literacies, which includes multiliteracies, could contribute to both using and developing the literacies and language resources of African language speaking PGCE science students as they engaged with the demands of university education and teaching as a profession.

Chapter 3: Research Design and Methodology

Introduction

In this chapter, I discuss the research methodology and design I used to collect the data, select the data and analyse the data. My main argument is that academic literacies support for African language speaking students in a specific professional discipline like teacher education, must move beyond the focus on student writing only, to incorporate multiple other modes required by the PGCE programme as well as engage in using students' languages as a resource (Ruiz 1984). Part of the academic literacies support involved demystifying academic literacies practices for African language speaking students at risk of failing. My research was also aimed at changing institutional conceptualisations of African language speaking students as students in deficit with 'language problems' to a more socially just view that builds on the resources that these students bring to higher education institutions. My research was therefore focussed on both understanding the problem and offering practices to address the problem. I start this chapter discussing my decision to constitute my research as a case study of an intervention using ethnographic methods to construct data for analysis. Next, I describe the university that was my research context, the PGCE programme and its Education core course, I introduce the student participants and discuss my dual roles as both researcher and academic literacies facilitator. Then I describe the research process, the data collection methods, and the different types of data I selected and analysed. The chapter ends with a discussion on my process of analysis, the methods I used and how I interpreted and used the data I collected.

Ethical considerations

The research proposal was approved by the University's Ethics Committee and the data was gathered, recorded and transcribed with the students' written permission. The research project was presented to the students, carefully explained and information letters (see Appendix A1) and the consent forms (see Appendix A2) were

also explained to the students. Though it was difficult to fully anonymise the university that was the research site because it is the only one of its kind in the region and so distinct that even the most basic description would render it known, the identity of the students, lecturers or teaching practice (TP) supervisors is protected through fictitious names or pseudonyms or through the use of general titles such as “the lecturer” or the “TP1 supervisor”. Also, though the regions the students came from had to be revealed to describe the language resources of the regions and of schools in the region, these were kept to broad provincial names such as “Western Cape” or the names of places rather than specific school names. In photographic images care was taken to cover the faces of the participants and the faces of any bystanders so that their identities were not revealed. The research participants also had the right to withdraw their participation at any stage of the research process and to withhold any materials or texts they produced. None of the student participants withdrew from the study.

Qualitative research and the case study approach

I adopted a qualitative case study methodology to gain a deeper understanding of the academic literacies and multimodal practices student teachers require to succeed in passing a Postgraduate Certificate in Education (PGCE) at an elite English dominant university. The qualitative approach allowed me to explore topics in context and from the perspective of the students who were the research participants (Bogden and Biklen, 1997; Yin 2009). Constituting the research as a single case study allowed me to produce an analytical explanation that was “constructed and crafted to recount, analyse and generate, without reducing, new ways of understanding complex practices” (Miles, 2015: 316). Miles argues that though this approach is often critiqued because generalisations cannot be made using only a single case, the case study method is significant in education research because it provides “context-dependent knowledge” and can become “an example to be learned from” through answering specific questions (2015: 309). The primary question that this case study aims to answer is “How might a decolonial approach to academic literacies expand selected multilingual students’ multimodal repertoires and their production of texts in a teacher education programme at an elite English medium university in South Africa?”. To answer this question, I constituted the case

by drawing on selected examples of the academic and multiliteracies practices that constituted the intervention, and the students' as well as my experiences of the intervention as demonstrated by the data. The intervention refers to the practices I designed and engaged in that allowed the students to develop the necessary academic and multiliteracies practices required to pass the PGCE programme. The case study was exploratory because I could not control the outcomes of the intervention on the students' academic literacies practices and learning and nor on my learning and practices as these had to be discovered through the analysis of data.

The importance of context to qualitative research, the case study approach and academic literacies is supported by my use of decolonial theory. Mignolo's (2007) 'grammar of de-colonization' (485) and the strategy of delinking proposes a separation and uncoupling of previous knowledges or a transformation of the parameters of participation from a universal/ colonial standard that is disconnected from local experiences. Mignolo identifies, "learning to unlearn" 'universal' conceptualisations as one way of delinking from our acceptance of coloniality (2007: 485) and this can be achieved through "de-naturalizing concepts and conceptual fields that totalize A [colonial version of] reality" (Mignolo, 2007: 459). This would allow a focus on local contexts and the experiences of subjects in local contexts can be given primacy. Answering the first subsidiary research question, "What are African language speaking students' early experiences of coloniality in education and how do these influence their understanding of the academic literacies and teaching demands in postgraduate teacher education?" allows me to examine and discuss how context shapes literacies learning. Answering this question, allowed me to analyse the students' previous learning experiences across three levels of education, namely school, undergraduate study and the PGCE programme. The decolonial lens I argue allowed me to identify and examine continuing colonial practices that impede learning and that need to be revealed, examined and addressed in each of the three levels of education identified above. I focussed on how the students' literacies were shaped by the coloniality of language: English as the universal or dominant language of knowledge production in South Africa and how this influenced the choice of it as the language of instruction in education in South Africa and ultimately how this shaped the resources the students brought to the PGCE programme. Lillis (2008)

writes that while student texts remain a primary focus of academic literacies research, there is also recognition in the field of the “need to focus on the context of writing, for understanding what is involved and at stake in academic writing” and in the production of student texts (354). The primacy of context to the case study approach and academic literacies demonstrates a shift away or delinking from decontextualised analysis and decontextualized ways of working with student texts to include the “participants’ perspectives on the texts and practices” (Lillis and Scott, 2007: 11). My use of ethnographic tools and how data was selected to answer the research questions referred to above as well as subsidiary questions two, three and four is discussed below where I reveal the different aspects of the case and the ethnographic tools, I used to construct the data.

Using ethnographic tools

In qualitative case study research, the data collected should be detailed descriptions of places, people, practices, interaction and conversations (Bogden and Biklen 1998: 4). To obtain a detailed or “rich description” (Bogden and Biklen 1998), I used ethnographic tools such as participant observation, document collection, audio and video recordings, photographs and fieldnotes as well as interviews which produced multiple sources of data. Taylor (2013) asserts that while multiple sources of data are thought of as problematic from a positivist view, varied data sources can allow the researcher to examine and understand the problem across multiple levels and to strengthen the validity of the case (Taylor, 2013: 811). Using ethnography as methodology in academic literacies research, allows the researcher to use “multiple data sources and sustained involvement in contexts” and contest the autonomous model of literacy and “the ways in which text and context in writing research are often conceptualized as separate [autonomous] phenomena” (Lillis 2008: 355). Contesting the autonomous model of literacy is essential because its implementation, as Boughey and McKenna (2016) state, denies the fact that literacies practices are complex, difficult to acquire, discipline specific and embedded historically. They also argue that “the autonomous model of literacy is often coupled with a discourse of the ‘decontextualised learner’ who is divorced from her social

context, with higher education success seen to be resting largely upon attributes inherent in, or lacking from, the individual” (Boughey and McKenna, 2016: 1).

The research context: The university

The university I chose as my research site is a prestigious English medium university in South Africa that modelled itself closely on elite universities in the United Kingdom. The physical space of the university, its architecture, is a mix of ivy-covered brick buildings, oak tree-lined roads and the taller glass and steel facades of the newer more modern buildings. The architecture as well as the size and scale of the buildings reveal its colonial history and signals wealth. During apartheid, the university was designated for white English-speaking people with its students coming from well-resourced English medium homes and schools. During the anti-apartheid struggle through protest and agitation, a small number of black² South African students were allowed to register there. Though the university is known to have an active progressive contingent of academics and students who played a role in the anti-apartheid struggle, the university is also known to serve a largely middle- and upper-class community. It employs and attracts academics and students from all over the world and has largely retained its elite status through stringent admission requirements, accepting only the students with the best academic results.

Post-apartheid, mainly due to government pressure to increase the number of black South African students as well as black students from other African countries, collectively, black students now make up approximately 45% of the university student population with 25% of that collective consisting of black South Africa students³. Though there is more equity in the racial distribution of students, there is

² During apartheid, the population of South Africa was divided into racial groups through various forms of legislation such as the Population Registration act that delineated racial categories based on the observed features of the person, primarily their skin tone, hair and facial features. In South Africa during apartheid, the collective group consisting of people of colour referred to as ‘black’ in the USA were separated into specific sub-groups, a sub-group of people were labelled as “coloured”, a sub-group of indigenous African language speakers were labelled as “black” or “African” and another sub-group was created for people with ancestry from the Indian subcontinent who were called “Indian”.

³ This data comes from the university transformation Fact-Sheet 2018

not yet equity in the learning experiences of students. Since the language of instruction at the university is English, students who have not yet acquired a high level of academic literacies in English struggle to complete their courses within the designated time. Most students who struggle to learn in this elite environment are black from working class backgrounds and/or students who are multilingual. When these students do complete courses, many may struggle with low achievement and cannot continue on to postgraduate study at the university. At English medium universities, one's ability to read, write and speak a high level of academic English can significantly influence one's ability to pass courses and navigate assessments and learning successfully. The student protests #RhodesMustFall in 2015 and #FeesMustFall in 2016 drew attention to the continuing coloniality of the university space, curriculum, institutional racism as well as the financial precarity that marked the experience of multilingual and/ poor black students.

The Postgraduate Certificate in Education (PGCE) programme

The experiences of five students completing the Postgraduate Certificate in Education programme (PGCE) and the academic literacies of the Education core course of the PGCE is the focus of this research. While PGCE programmes vary nationally and globally, at the university that was the research site it was a one-year postgraduate qualification which allowed students with undergraduate degrees in a range of fields and subjects such as mathematics, science or drama (amongst others) to learn to become teachers. The PGCE in 2016 had the following main components: subject teaching methodology (methods) courses which were subdivided into Foundation Phase (FP); Intermediate Phase (IP), and Senior and Further Education and Training (Senior and FET) phase; School experience, including two teaching practice periods in schools; tutorials and a theoretical core course in Education. Students also had to take a communication course in isiXhosa

https://www.news.uct.ac.za/images/userfiles/files/publications/factsheets/UCT_FactSheet_24_Transformation.pdf

or Afrikaans if they were not yet proficient in these languages and there are also optional Professional Practice workshops/ lectures which students can attend. In the methods classes the students are taught pedagogic practices as well as the curriculum requirements for the subjects and grades they would teach. The two teaching practice periods (hereafter TP) were as follows, the TP 1 period took place in semester one from 4 April to 5 May 2016 and TP 2 period took place in semester two from 18 July to 26 August 2016 (PGCE Programme Information Handbook 2016). During teaching practice, the students were placed in schools with designated content subject teachers to learn and practice teaching strategies, classroom management, lesson planning and a host of professional practices through observation and interaction with teachers, who are known as mentor teachers. During TP student teachers arrive at school for a week of observation and thereafter, the student teachers are required to teach “an average of approximately two hours a day” in TP1 or as many lessons as the mentor teacher will allow” (Teaching Practice Handbook 2016: 3). In TP 2 students becoming Senior (grades 8-10) and FET (grades 11-12) teachers must “have the sole control of at least one class in one subject for two successive weeks” (Teaching Practice Handbook 2016: 3). Two or three of these lessons are formally assessed by a university appointed teaching supervisor who submits a formal report and mark to the university at the end of the Teaching Practice period. The observed and critiqued lessons are known by staff and students colloquially as “crit” lessons and the assessed lessons are evaluated using formal reports, the results of which make up part of the School Experience mark.

The PGCE Education core course

As mentioned above the PGCE programme consisted of different courses such as School Experience, teaching methodology classes and the Education core course. I decided to focus my investigation on the academic literacies of the Education core course since it was demanding from an academic literacies perspective as it was a theoretical course that required a considerable amount of academic reading and had many essay writing assessments. After my description of the Education core course below, I then discuss the interventions I designed to support students with meeting

the academic literacies demands of the Education core course as well as the interventions such as the multimodal workshops and site visits which addressed the multimodal demands of teaching practice.

The PGCE Education core course, is a compulsory course that consists of a number of smaller modules each taught by different lecturers, coming from distinct disciplinary areas (e.g., Sociology of Education, History of Education, Educational Psychology, Language and Literacy Studies and Curriculum theory) with a distinct assessment for each module. Thus, there is a wide range of text types, genres and disciplinary positions students are required to produce in assessments for this course. The aim of the Education core course was to “provide a sound theoretical framework within which students can reflect on teaching and learning” (PGCE Programme Information Handbook 2016). The Education core course was organised around six questions which reflected the various modules of the course:

1. What is Knowledge?
2. How do we understand schools and the contexts in which we teach?
3. How do we understand learners and learning?
4. How do we understand language, literacy and learning?
5. What is pedagogy?
6. How do we understand teachers and their work?

(PGCE Programme Information Handbook 2016: 10).

There was a total of eight core-course assessments (seven written assessments and a class test) spread over the year that roughly corresponded to the Education core course modules. The final assessment of the Education core course was called the ‘Long essay’ because it had a word count of between 3500 and 4500 words and required the students to select and answer any of the three key questions listed above. The essay type assignments in the Education core course mainly took the form of analytical essays and variations of this form which included: a discussion based on answering a question; a comparison of the theoretical positions of two authors; an essay based on a close analysis of a lesson transcript (Classroom

Discourse essay); an essay comparing the two teaching practice experiences in March and July; and a long essay (3500-4500 words) which integrated theory and educational practice across all the modules.

In addition to the Education core-course assessments, students also had to produce reflective writing in two teaching practice journals, numerous PowerPoint presentations, and various assignments for their methodology courses which included creating lesson plans, posters and a book review. However, due to the #FeesMustFall 2016 student protests and resulting university closure, a period marked by great uncertainty, strife and pressure for staff and students, some class tasks of the PGCE programme were converted to essay type assignments. This was done to compensate for the weeks of teaching time lost during the student protest but also meant that the essay writing demands of the PGCE programme increased and the students had to produce more written assessments in less time.

The student participants

I selected the five students that constitute my case study through the process described next. On 3 March 2016 I did a presentation in a lecture hall for the entire cohort of 150 PGCE students to help them prepare for writing their first essay, the History of Education essay. At the end of the presentation, I explained my research, provided my contact details, and asked students who wanted to participate to contact me via email. Twenty students replied and I invited them to another academic literacies workshop on critical literacy. Only ten students arrived to attend this workshop, three male students and seven female students and the students were a mix of different races and language backgrounds. Some students were learning to be Intermediate Phase teachers (Grades 4 -6) and other students were learning to be Senior/ FET teachers (Grades 7 – 12). Next, I invited students to a third workshop in preparation for their second essay, the Classroom Discourse essay. When I received my ethical clearance from the university in March 2016, I emailed the ten students who were on Teaching Practice 1 in schools at the time and asked those students who wanted to participate in my study to fill in the consent forms and return them to me signed. All ten students returned their consent forms and I made a commitment to work with all of them. However, I wanted to focus specifically on

working with African language speaking students and I decided to constitute the five African language students in the group of ten students as participants in my case study. The main reason I chose the five students was that they were all changing fields from undergraduate science degrees to study Education, a discipline in Social Science, at the postgraduate level. This meant that both the discipline of Education was new to the students and there are significant disciplinary differences in literacies practices between the Sciences and the Social Science field. A primary difference was that in Science, essay writing is not usually required in assessments, while in Education, a discipline in Social Science, writing and essay writing is a significant form of assessment.

The five students in the case study were all multilingual African language speakers between the ages of twenty-four and twenty-eight. There were three women, Zara, Lera and Zinzi and two male students, Kagiso and Thabo. These names are pseudonyms and were selected to protect the students' identity. Three of the students identified as isiXhosa speakers, Zara and Thabo identified as isiXhosa speakers from the rural Eastern Cape while Kagiso was an isiXhosa speaker from Cape Town in the urban Western Cape. Lera identified as a Setswana speaker from Gauteng and Zinzi identified as an isiZulu speaker. The map of South Africa below shows the different regions or provinces the students came from and indicates their African home languages.



Figure 3.1: Map of South Africa showing student participant languages and regions

Thabo and Zara were both isiXhosa speakers from the Eastern Cape, but while Thabo stayed in the Eastern Cape to complete undergraduate study, Zara left the Eastern Cape after grade 5 to live and attend school in Cape Town. Zinzi had two children, a girl and a boy, under the age of six, was a more mature student with a Master's degree and had worked in the Hydraulics Engineering field. Lera had graduated with a degree in Geology, Thabo with a degree in Mathematics and Computer Science, Zara with a degree in Biochemistry and Kagiso with a degree in Chemical Science. At the time the students applied to the PGCE programme Zinzi had come to Cape Town for a job offer that had fallen away, Thabo and Lera were job seekers and Zara and Kagiso had short-term work contracts that had ended. Though all the students are referred to in the data analysis chapters, due to the constraints of space, I decided to take the analysis deeper and focus intensively on the academic literacies practices of two of the female students, Lera and Zara in two of the chapters. I use the experiences of the other students as points of similarity or

difference to show the range of experiences where pertinent. I decided to focus more closely on the experiences of Lera and Zara because Lera was most at risk of failing and most agentic, willing to dedicate a significant amount of time to learning academic literacies practices, while Zara was most self-reflexive about her learning process and previous educational experiences.

The researcher's position

In this research, I hold the position of both researcher and participant as I am the academic literacies facilitator supporting students with learning the academic literacies practices required in their Postgraduate Certificate in Education. I choose the term facilitator to signal that I am not the lecturer who sets or assesses the students' assignments, but I am the person teaching them the academic literacies practices that I have come to know, in a parallel intervention I designed to support their academic literacies practices. I do not use the term "tutor" because the students had tutors and tutorials in the PGCE programme. As stated previously, my position can be described as that of a "knowledgeable insider" and which Lillis (2001) describes as a person who is "viewed by the student writers as someone who knows more about the conventions that they are expected to write than they do" (2001: 9). This position as "knowledgeable insider" contains a tension that is expressed in decolonial terms as "entanglement" as I was both the academic literacies facilitator supporting students' coursework assignments and designing and implementing practices that challenged institutional language practices by investigating how their African language resources could be used to build a pedagogic bridge in science teaching. I was thus both supporting students with academic literacies and challenging them to use their African language resources and multiple modes in teaching, in ways that were new to them. Janks (2004) draws on Lodge's (1997) term "Access paradox" to explain the entangled position of academic literacies practitioners who in giving students access to dominant discourses also inadvertently increase participation in and use of colonial languages like English.

The academic literacies intervention

In this section I briefly summarise and describe my academic literacies intervention, list all the assessments of the Education core course and provide a timeline in Figure 3.2 below of the academic and multiliteracies support I provided to students in 2016. I then provide more detailed information on each aspect of the intervention. To demystify the academic literacies practices of the PGCE Education core course I used the process approach to writing and my process for supporting each Education core course assessment started with either a workshop or a group discussion as preparation for essay writing. These essay preparation workshops and group discussions focussed on academic reading, analysing and discussing these readings and doing a task analysis of the assessment question. After these preparatory sessions, students wrote drafts and then each individual student and I met in one-to-one sessions where we discussed their essay drafts. Initially the students had two one-to-one academic literacies sessions but later some students only required one session.

As mentioned previously, though I did academic literacies presentations for the PGCE students, I started the intervention on 14 March 2016 with a workshop entitled “Introduction to critical literacy” which was attended by 10 PGCE student volunteers. It was after this workshop that I selected five of the 10 student volunteers as the participants in my case study. On 22 March 2016 I held an essay preparation workshop for the Classroom Discourse essay after which the students went on their first teaching practice in schools. After the students returned from their first teaching practice in May, I held one-to-one academic literacies sessions on the Classroom Discourse essay. Three of the five students had two academic literacies sessions for the Classroom Discourse essay between 18 May and 10 June 2016 and two students had three academic literacies sessions on the Classroom Discourse essay. Next, I held a series of five workshops from 11 to 15 July, in the mid-year holiday (5-Day July holiday workshops) and though I had invited all 10 volunteers from previous workshops, only the five students who were part of my case study arrived at the workshops. As part of the workshops the students and I visited three sites: we visited the Science Centre twice as well as the South African Natural History Museum in Cape Town during that week. From 30 August to 6 September, I facilitated one-to-one academic literacies sessions on the Ethical Decision-making assignment, a

tabular document that students had to fill in after constructing an argument for or against an ethical decision they had to take whilst on practice teaching in a school. On 2 and 3 September 2016 the students and I attended the ESRRRC, Education Student's Regional Research Conference that took place at the university that was the research site. Following this, I facilitated one-to-one academic literacies sessions on the students' book review drafts between 5 and 7 September. Next, on 14 September, I facilitated an essay preparation session on the "Curriculum theory and pedagogy" essay assignment but some students could not attend this session. The university shut down on 19 September due to the #FeesMustFall student protests and I held another Curriculum theory and pedagogy essay preparation session on 21 September which the five students and three of their friends attended. I then held one-to-one academic literacies sessions on the Curriculum theory and pedagogy essay assignment from 5 to 11 October and much of these sessions took place outside of the university campus since the university facilities were closed to students and staff. On 17 October the university re-opened and some classes resumed while some classes moved online. Our last site visit took place on 18 October 2016 and the five students', and I visited the Baxter Theatre to watch a play called *The Fall*, which was based on the 2015 #RhodesMustFall student protests. The period between October and November 2016 was a highly pressured period as weeks of teaching time had been lost due to the student protests. During this period the students were writing final tests and handing in essays and other assessments. The one-to-one academic literacies sessions for the "Social positioning of learners and social justice" essay assignment and the "Teacher professionalism and professional learning" essay assignment as well as the Long Essay took place between 21 October and 14 November 2016. Figure 3.2 below shows the entire academic literacies intervention for 2016 including the dates of the practices and the time taken for the academic and multiliteracies intervention and support.

PHD Intervention Research Timeline and Events

Date	Academic Literacies (AcLits)	Content	Time
3 March 2016	Essay preparation presentation	History of Education essay preparation for PGCE students in lecture hall	45 mins
14 March	Workshop	Introduction to critical literacy I	60 mins
22 March	Workshop	Classroom Discourse essay preparation	60 mins
18 May – 10 June	One-to-one AcLits sessions	Classroom Discourse essay - (2x2, 60min sessions Lera and Kagiso+ 2x45min sessions) (2x3x45min sessions – Zara, Zinzi and Thabo)	600 mins
11 – 15 July	5x Workshops and (3x) site visits	5-Day July Holiday Workshops (5x120mins a day) + Site visits (90minsx3) Lera's lesson plan analysis and revision (120 mins)	990 mins
30 Aug – 6 Sept	One-to-one AcLits sessions	Ethical Decision-making assignment - (2x, 60min sessions Lera and Kagiso) (3x45min sessions – Zara, Zinzi and Thabo)	255 mins
2 – 3 Sept	Site Visit	ESRRC, Education Student Conference	150 mins
5 Sept – 16 Nov	Interviews	Detailed literacy history and intervention feedback (5x 40min)	200 mins
5 – 7 Sept	One-to-one AcLits sessions	Book review drafts (5x1 sessions per student) at 45min a session	225 mins
14 Sept	Essay preparation session	Curriculum theory essay assignment	30 mins
19 Sept	#FeesMustFall Student Protests	University suspends classes, tests, lectures due to student protests	
21 Sept	Essay preparation session	Curriculum theory essay assignment	60 mins
5 – 11 Oct	One-to-one AcLits sessions	Curriculum theory assignment draft (5x 40minsession per student)	200 mins
17 Oct	University reopens	University Classes resume, limited in person and online	
18 Oct	Site visit	Baxter Theatre - The Fall	120mins
20 Oct	Essay preparation session	Long Essay assignment	120 mins
21Oct – 14 Nov	One-to-One AcLits sessions	Social positioning of learners and social justice essay assignment (5x40 min per student)	200 mins
	One-to-one AcLits sessions	Teacher Professionalism essay assignment (5x40min per student)	200 mins
	One-to-one AcLits sessions	Long Essay - (2x2x60 mins) and (3x2x45 mins) sessions per student	510 mins
Total Time		4025 mins + 60mins = 67.08hrs	4025mins

Figure 3.2: PhD intervention research timeline and events (See Appendix C for a larger version).

Types of interventions and what each addressed

Decontextualised autonomous constructions of academic literacies often lead to a focus on the structural elements of writing such as grammar at the sentence level and a focus on generic essay structure, which are often taught to large groups of students from a variety of disciplines. Delinking from this, I took a disciplinary approach, focussed on teaching academic literacies to a small group of students using the actual writing assessments and assignments of their PGCE programme. My position as a PhD student working in literacies education and my history of working as a literature tutor at university as well my work at a Writing Centre at a university of technology made me aware of both the value of working with small groups of students and of the interim literacies (Paxton, 2007) of many multilingual students coming from low resourced government schools.

Essay preparatory workshops

My academic literacies preparatory workshops started with what are considered basic academic reading practices, such as reading extracts of the secondary readings, annotating, making notes and close analysis of paragraphs that explained specific ideas in the readings. This was followed by task analysis of the essay question and a discussion with the students where ideas were clarified and opinions exchanged.

Group discussions

I used a few group discussion sessions during the student protests which were shorter than the workshops and more informal as they took place at various locations since the university was closed. These discussions were a means to continue the student support in the absence of contact with the teaching staff and university resources such as the library. During group discussions, the students and I engaged in task analysis and discussed the academic readings in relation to an essay or assignment question.

Scaffolding academic reading in the workshops and group discussions

Academic reading is often overlooked as an aspect of the writing process and since I knew that the students had changed disciplines from Science and Mathematics to Education, I decided to include reading practices into the intervention. Devereux and Wilson (2008: 127), note that lecturers assume that university students can already read but, texts “at university are far more demanding, embedded and extensive than those they have met before”. HE students also need to “develop an increasingly critical stance as they delve more deeply into their disciplines, learning to read with a “suspicious eye” (Devereux and Wilson, 2008: 127). Writing from the South African HE context, van Pletzen (2006) states that though interventions at the level of writing occur in classrooms and writing programmes, “Learners’ performance of reading, however, is usually left unprobed and unaided” and reading remains invisible despite its importance to learning (105). The process of making reading invisible starts early when children are told to read quietly by themselves, when these “individuals start reading quietly to themselves their meaning-making activities and emotions for the most part slip beyond detection” (van Pletzen, 2006: 105). Reading can become part

of the “hidden curriculum” writes van Pletzen (2006) drawing on Rose’s (2004) argument that “much of the sequencing and pacing of the curriculum is based on progressively higher expectations of students’ independent reading abilities” and those students without opportunities to acquire middle-class and or elite “linguistic orientations” have difficulty with “trying to learn formal knowledge from reading” (106). Another aspect that Devereux and Wilson emphasize is that when students are new to a field or programme, they “also need opportunities to get feedback on their reading, so that they can gauge how effectively they are engaging with texts” (2008: 128). The focus on academic reading in the workshops and the group discussions was essential to recognising and supporting students new to the field and who had English as an additional language.

One-to-one academic literacies sessions

After the task analysis and reading discussion sessions, students arranged an individual one-to-one academic literacies session to discuss their essay drafts or other writing. If the essay draft showed that the students had a convincing argument and after we discussed any questions the student had or discussed the ways they could improve their essay, they would complete the final version of the essay on their own. If the essay draft needed considerable revisions, we would schedule another academic literacies session so that the student could implement the changes discussed. The student and I would meet again to discuss the second version of the draft before the student would complete the final version of the essay and submit it.

Materials designed and used to support analysis and writing

I designed two writing frames in the form of tables to guide the analytic and writing activities of the Classroom Discourse essay. I created a draft essay writing frame (See Appendix I) and I created a table for transcript analysis called the “Transcript analysis framework” (See Appendix H for an example from the Transcript analysis framework) containing the aspects of the question students needed to answer which guided the students with analysing their transcripts which was the data on which their Classroom Discourse essays were based. I also included an additional material such as an academic reading, I included Hendricks (2003) to provide information on the different types of classroom talk. When I supported students with writing their

book review, I used three book reviews as model texts which we read and then analysed. I also included a list of words used in transitions and cohesion in sentences and paragraphs.

Multiliteracies workshops: The 5-day (11 – 15) July holiday workshops

The workshops took place in the winter holiday in July 2016 and the content covered both academic literacies and multimodal practices. I conceptualised the workshops after the students' struggled to answer Part Two of the Classroom Discourse essay that required them to discuss ways to include reading and writing exercises in a lesson. These were Science and Mathematics lessons since these were the students' content areas. Part Two of the Classroom Discourse assignment question asked students to "Provide two examples of how you integrated or could integrate reading and writing activities into the lesson you analysed and how you would scaffold such activities so as to purposefully develop learners' reading and writing competence and improve learning" (Classroom Discourse essay question, Language and literacy across the curriculum module, Education core course, 2016). I designed the second day of the workshops to include experiential learning and a report writing task to support students with including writing into their lessons. The multimodal aspects of the workshops were based on Gibbons' (2009) idea of message abundancy where students with English as an additional language (called English Language Learners by Gibbons) were provided with access to the same data presented in multiple ways. Message abundancy, argued Gibbons (2009), meant that the curriculum was not simplified for multilingual learners but amplified through using multiple modes to convey the same message. In the 5 days from Monday to Friday in July 2016 the students attended workshops from 10am to 12pm where we covered the following aspects: explicit explanation of features of expository writing genres such as the argument and the discussion; examining model texts and ideas on how to read academic texts. The 5-day July holiday workshops also included site visits to the Science Centre (Tuesday and Wednesday) and the National Museum (Friday). The students also performed two practical science experiments, creating a simple electric circuit and creating an electromagnet. We also experimented with using the student's languages (isiXhosa, isiZulu and Setswana) in a translation

exercise where students translated an English term into their home languages.

Figure 3.3 below focuses on the activities of the 5-day July holiday workshops (See Appendix D for a larger version of Figure 3.3.)

5-day July Holiday Workshop (11-15 July 2016 – Time spent, 990 mins or 16.5hours)

Date	Activity	Content	PhD Chapter	Attended	Time
11 July, Monday	Workshop	*Focus on academic reading and writing using Ernest Morrell's (2008) Critical Literacy and Urban Youth, 2 nd Chapter "From Plato to Poststructuralism" focussing on Introduction, sub-headings and argument structure and conclusion		Lera, Zinzi, Zara, Thabo and Kagiso	10am – 12pm (120 mins)
12 July, Tuesday	Workshop and Science Centre visit	*Focus on multimodality and multiliteracies. Interactive and experiential learning, brainteaser, science experiments on circuits and electromagnets, report writing and using multilingualism as a resource. *Science Centre visit and worksheet	Chapter 6	Lera, Zinzi, Zara, Thabo and Kagiso	10am – 12pm and 1- 2:30pm (120 + 90 =210 mins)
13 July, Wednesday	Workshop and Science Centre visit	*Focus on Derewianka (1990) "How texts work", differences between discussion and argument genres and discussion on Site visit worksheet *Visit to the Science Centre, visible light and Camera Obscura experience.	Extracts in Chapter 6, Part Two and Chapter 7	Lera, Zinzi, Zara and Thabo	10am – 12pm and 1- 2:30pm (120 + 90 =210 mins)
	Lera Lesson Plan AcLits session	Scaffolding a Lesson Plan and PowerPoint presentation, AcLits session on Grade 9 Science "Reactions of Non-Metals with Oxygen"	Chapter 5, Part Two	Lera	5-7pm (120 mins)
14 July, Thursday	Workshop and Book Review	*Focus on lesson plan and PowerPoint presentations with Lera playing the role of facilitator *Focus on book review, examining model texts, talking through Lera, Zinzi and Zara's book choices and opinions on the books	Extracts in Chapter 5, Part Two	Lera, Zinzi, Zara,	10am – 12pm (120 mins)
15 July, Friday	Workshop TP Journals and SA Natural History Museum visit	*Focus on the Long Essay, discussing "What is knowledge" one of the options in the essay question. *Zinzi and Thabo request a revision session on lesson planning and using a video in a PowerPoint presentation -Visit to the SA Natural History Museum	Extracts in Chapter 7, SA Natural History Museum site visit only	Lera, Zinzi, Zara and Thabo	10am – 12pm and 1- 2:30pm (120 + 90 =210 mins)

Figure 3.3: Activities of the 5-day July holiday workshops (11-15 July 2016)

Due to the limitations of space, I selected the activities of Day 2 of the 5-day July holiday workshops as an example of multiliteracies and multimodal and multilingual practices. Figure 3.4 below provides an example of the multiliteracies and multimodal practices I designed and demonstrates the activities the students engaged in on Day 2 of the 5-day July holiday workshops.

Day 2 of 5 (Tuesday 12 July 2016) - The five activities of a multimodal academic literacies workshop for science student teachers

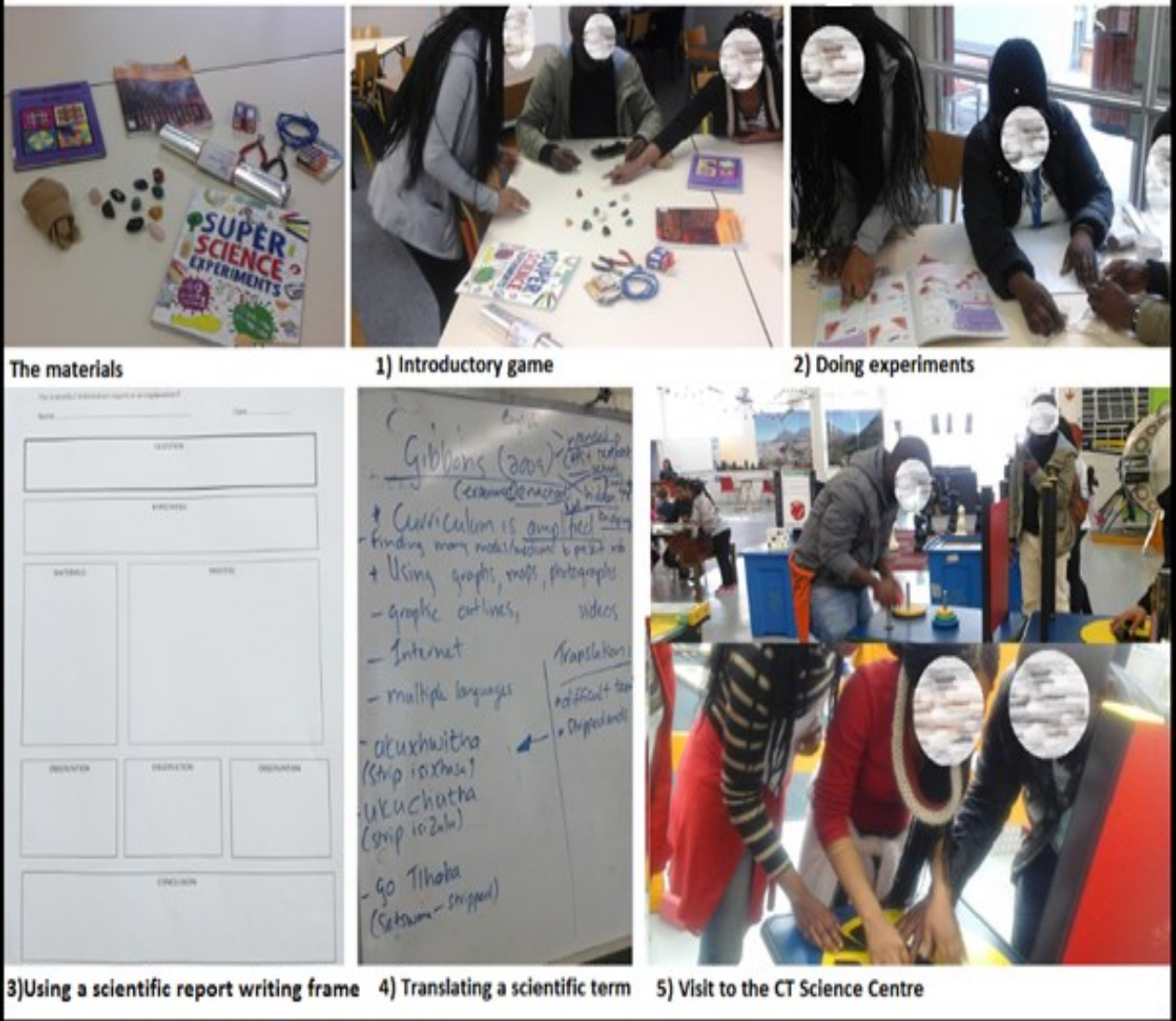


Figure 3.4: A multiliteracies intervention – Day 2 of the 5-day July holiday workshops

Site visits: Outside of university learning spaces

There were four sites visited as part of the intervention between March and November 2016. Three of the site visits took place during the 5-day July holiday workshops, namely, two visits to the Science Centre and a visit to the South African National Natural History Museum in Cape Town. Thereafter in September 2016 the students attended the ESRRC (Education Students Regional Research Conference) and in October, the students visited the Baxter Theatre to see a play about the

#RhodesMustFallMovement in 2015, called *The Fall*. Through the site visits and introducing students to spaces they had not been to before, I wanted to create opportunities for embodied and experiential learning, and to enrich their learning beyond the text and beyond what I could provide.

Data collection methods and tools

The intervention took place from March 2016 to November 2016 but the data collection started in March 2016 and lasted until after the students received their results on 14 December 2016. Methodologically, the case study approach facilitates the use of multiple methods to gather and construct data from a variety of sources. The types of data collected are shown in Figure 3.5 below and discussed in some detail thereafter (See Appendix E for a larger version of Figure 3.5).

Total data set collected in this research

Type of data	Data collection categories	Description of what was collected
Audio recordings, with 1 audio recorder	One-to-one AcLits sessions	Classroom discourse essay; Ethical decision-making assignment; Book reviews; Curriculum theory essay; Social positioning of learners and social justice essay assignment; Teacher Professionalism essay assignment; Long essay; Lesson plan analysis and revision; Revised failed essays
	Essay preparation workshops and discussion sessions	Classroom discourse essay; Ethical decision-making assignment; Book reviews; Curriculum theory essay; Social positioning of learners and social justice essay assignment; Teacher Professionalism essay assignment; Long essay; Lesson plan analysis and revision; Revised failed essays
	5-Day July holiday workshop –	Workshops (x5days)
Video recordings	One-to-one AcLits sessions	Classroom discourse essay
	5-Day July holiday workshop	5 x daily workshops
Photographs		5-Day July holiday workshop science experiments; workshop content; site visits to Science Centre (x2) and SA Museum
Documents	PGCE Handbooks	PGCE Programme Info Handbook and TP Handbook 2016
	Written assessments and drafts	5 x copies of Classroom discourse essay; Ethical decision-making; Book reviews; Curriculum theory essay; Social positioning of learners assignment; Teacher Professionalism essay assignment; Long essay; Lesson plans
	TP Journals	5x copies of Teaching Practice Journals 1 and 2
	Academic results	5x copies of academic results
Interviews	Lera, Zara, Kagiso, Thabo and Zinzi	5x Literacy History and Feedback Interviews
Observation x 2 lectures	Field notes	Curriculum Theory and Pedagogy lectures x 2
Fieldnotes	2x Notebooks	Book 1 One-to-one AcLits sessions: Book 2 – Workshops, Site visits and 2x Curriculum lecture observations

Figure 3.5: Total data set collected (see Appendix E for a larger version)

Audio recordings: Workshops, academic literacies sessions and interviews

I used a small voice recorder which I placed on the desk and recorded all the workshops and academic literacies sessions between myself and the students. I also audio recorded semi-structured interviews with students on their educational/literacy history, as well as their experience/feedback of the intervention (See Appendix A for the interview questions and Appendix B for the feedback questions). Student experiences of early schooling and their literacy history were shared throughout the year during essay writing sessions and discussions. The one-to-one session with each student on their writing drafts served as an informal interview which I started by verbally asking the student about the languages they spoke, where they attended school and how they found the essay writing process. As this data is scattered throughout the research in all of the many writing sessions, I created a semi-structured interview to record the students' literacy history and feedback of the intervention. I audio recorded these individual interviews as a record and a chronological account of the students' language and learning experiences. The s served a similar purpose to what Lillis (2008) calls the literacy history interview. Lillis argues that the literacy history interview "involves the researcher eliciting autobiographical accounts of language and academic literacy learning so that current practices and perspectives can be understood within the broader sociohistorical context of an individual's life (and academic writing) trajectory" (2008: 362-363). During these interviews, I asked the student open-ended questions for example, "Can you tell me about your experiences of language and learning at school?". The interviews took place between September and November 2016 when the university re-opened after the #FeesMustFall student protests. I placed student early school and literacies histories as the first of my data chapters to introduce the participants and reveal the complexity of schooling in South Africa.

Video recordings

I used a single video recorder set at an angle in the corner of the room to video-record the initial academic literacies sessions on the Classroom Discourse essay and during the 5-day July holiday workshops. The video recordings were useful in

allowing me to (re)view the student interaction and behaviour as well as my own teaching and behaviour. This was especially useful since I was acting as both the researcher and the academic literacies facilitator. Although initially the students and I were aware of the camera, we got used to it after the first few days of use. I decided to stop using the video camera from around August 2016 and primarily used audio recordings instead because most of the interaction in the academic literacies sessions involved discussion around texts. There are also photographs which are derived from the video recordings.

Still photographs

I used an android tablet (similar to an iPad) to record still photographs mainly during the 5-day July holiday multimodal literacies workshops and during visits to spaces or sites outside of our usual classroom at the university. I used the tablet when we went on site visits because it was easier to carry and use. This was done as unobtrusively as possible, to mitigate the effects and influence on student behaviour. Student awareness of both the video camera and tablet decreased once students were familiar with the presence of the cameras and the process of recording data.

Observations and field notes

Since I was both researcher and facilitator, during the academic literacies sessions, during discussions with students and during the academic literacies workshops, my field notes and my observations of the students and my own behaviour were recorded immediately after my interaction with the students. I recorded my observations in two notebooks, I used one book for observations and notes on student writing and in the second book I recorded observations during the 5-day July holiday workshops. I created a heading for each entry with the date, time and general context before I recorded my field notes. This assisted me with identifying activities, noting my reflections on the experience, on my interaction with students and the challenges either I or the students experienced. I used the fieldnotes for both evidence and for triangulation of evidence.

Documents and copies of student writing

To research and support the writing assessments of the PGCE Education core-course, I collected the following documents and student written texts. Copies of both draft and final marked assignments for all five students in hardcopy and electronic format including:

- A tabular document on ethical decision-making
- two class tasks
- four essay assignments
- lesson plans
- PGCE Information Handbooks
- PowerPoint presentations
- Teaching Practice Journals
- Book reviews
- Course readers
- Students' academic results

The data used are the following: student early schooling experiences and literacies histories interviews; written assessments such as the Classroom Discourse essay, a lesson plan and a PowerPoint presentation. Data was also analysed from the 5-day July 2016 holiday workshops, specifically Day 2 of the workshop is analysed in detail as an example of multimodal and multilingual pedagogy. Lastly, the site visits to four outside of university learning spaces namely: the Cape Town Science Centre, the South African Natural History Museum, the Education student conference and the theatre to see a play, called *The Fall*. Figure 3.6 below shows the type of data I analysed in my data analysis chapters and my methods of analysis.

The types of data analysed in the data analysis chapters and the methods of analysis

Type of data	Data collection categories	Description of what was used in data analysis chapters	Analysis methods used
Audio recordings, with 1 audio recorder	One-to-one Academic Literacies (AcLits) sessions	History of Education essay; Classroom discourse essay; Lesson plan analysis and revision; on student PowerPoint presentations	Critical Discourse Analysis (CDA) and Thematic Analysis (TA)
	Essay preparation sessions	Classroom discourse essay	CDA and TA
	5-Day July holiday workshop –	Workshops (focus on Day 2 Tuesday 12 July 2016)	CDA and TA
Video recordings, with 1 video recorder	One-to-one AcLits sessions	Classroom discourse essay	CDA and TA and Multimodal Analysis
	5-Day July holiday workshop –	5 x daily workshops (60mins x5 only)	CDA and TA and Multimodal Analysis
Photographs and images, android tablet	Digital images	5-Day July holiday workshop science experiments; workshop content; site visits to Science Centre (x2) and SA Museum	CDA and TA and Multimodal Analysis
Documents	PGCE Handbooks	PGCE Programme Info Handbook and TP Handbook 2016	CDA and TA
	Written material, assessments and drafts	History of Education essay; Classroom discourse essay; Lesson plans	CDA and TA
		Teaching Practice Journals 1 and 2	CDA and TA
		PowerPoint presentations - workshops and lessons	CDA, TA and Multimodal Analysis
		University language policy documents	CDA and TA
		Course readers	CDA and TA
Interviews	Lera, Zara, Kagiso, Thabo and Zinzi	5x Literacy History and Feedback Interviews	CDA and TA
Fieldnotes	2x Notebooks	Book 1 One-to-one AcLits sessions: Book 2 – Workshops, Site visits and 2x Curriculum lecture observations	CDA and TA

Figure 3.6: Types of data selected and analysed in the data analysis chapters

Data analysis and analytical tools

I used three primary data analysis tools: Thematic Analysis (TA) (Clarke and Braun 2017), Critical Discourse Analysis (CDA) (Fairclough 1992; Ivanič 1998) and multimodal analysis (Jewitt and Kress, 2003; Jewitt 2008; Kress et al 2014) which I discuss below.

Thematic Analysis (TA)

Analytical tools play an important role in generating thick description or detailed data analysis and provide data that can be used in decisions that need to be taken in the future and which can work to improve institutions (Price and Valli 2005: 65). Clarke and Braun (2017: 297) describe Thematic Analysis (TA) as “a method for identifying, analysing, and interpreting patterns of meaning (‘themes’) within qualitative data”. Thematic Analysis (TA) not only plays a role in summarising “the data content, but to identify, and interpret, key, but not necessarily all, features of the data, guided by the research question” (Clarke and Braun, 2017: 297). I used the two-step TA process to first code data that related to the research question and sub-questions. Next, I organised the codes around central ideas or themes related to the research question and sub-questions.

Critical Discourse Analysis

Other analytical tools I used were discourse analysis and I am using the term “discourse” in the broadest sense to include not only verbal but other modes such as visual and embodiment. I draw on Fairclough’s critical discourse analysis framework (1992) and multimodal discourse analysis (Jewitt and Kress, 2003; Jewitt 2008; Kress et al 2014). In Fairclough’s critical discourse analysis framework (1992: 73), or his “Three-dimensional conception of discourse” text, discursive practice and social practice are mutually constitutive. The CDA framework (Fairclough 1992) facilitated the inclusion of, the process of text production as well as student social context in the process of analysis allowing me to link student texts to wider social processes and to multiple other texts. The link between text and context is one way in which CDA differs from discourse analysis for while discourse analysis is involved in “analysing words or longer stretches of texts”, critical discourse analysis argues that in text analysis there are also social reasons for the word selection of a participant in a spoken or written text (Fairclough: 1992: 74). Since the main form of analysis is critical discourse textual analysis and in Fairclough’s words “texts are usually highly ambivalent and open to multiple interpretations” I have provided, where possible, more than one data source to make a particular analytical point or argument (1992: 75). Fairclough’s framework (1992: 75) also provides a means to discuss the social-historical conditions influencing the participants’ practices and the production of their

texts. Fairclough's idea of 'the orders of discourse' (like Foucault's 1971; 1981 concept) draws on the interrelated aspect of texts which Fairclough calls intertextuality (1992: 84). Fairclough defines intertextuality as "the property texts have of being full of snatches of other texts, which may be explicitly demarcated or merged in, and to which the text may assimilate, contradict" or echo (1992: 84). Intertextuality connects the social context of the text with the language of the text and with other texts. To demonstrate the connection between text and context, I used direct quotations of the students' words to, in the words of Erickson (1986: 149) cited by Price and Valli, "make clear to the reader what is meant by the various assertions, and to display the evidentiary warrant for the assertions" (Price and Valli 2005: 60).

Multimodal Analysis

Jewitt (2008) notes that multimodal analysis in educational research focuses on the "need to rethink what it means to learn and to be literate" beyond the linguistic (6). This need to rethink learning is especially important in contexts where many students do not have access to a variety of modes due to schools that lack resources but where knowledge of multiple modes is highly valued, practiced and demanded in certain disciplines, like science and certain spaces like elite schools and universities. It is not that student access to multimodality needs to be encouraged because multimodal practices are valued and practiced in elite spaces, but that multimodality offers richer learning experiences in education and is integral to learning in certain disciplines like science. Multimodal analysis in educational research analyses and considers "what sort of learning experiences different modes generate and what type of modes are valued in school and in other spaces" (Jewitt, 2008: 6). My use of multimodal analysis is primarily visual analysis of photographs (Kress and van Leeuwen 1996) and of the content, layout of objects in spaces as well as the position and activities of people in the images I used as data sources. I also wanted to examine and understand how multimodal spaces outside of the university could create opportunities for student teachers to develop an awareness of multimodality in science learning and I wanted to offer students access to modes and a variety of multimodal observations and experiences that supported teaching science experientially. I argue that providing students with access to spaces that offer a

variety of multimodal experiences is important because these spaces “can be used to build inventories of semiotic resources” and “contribute to the development of new ways of using semiotic resources” (Jewitt, 2008: 6). My focus was thus also on how to build student practices, experiences, and repertoires of multimodality since four of the five students had attended low resourced primary and high schools. Another aspect of multimodal analysis I wanted to understand which I referred to in Chapter 2, my theoretical framework, is described by a Pedagogy of Multiliteracies as “synesthesia” or learning that comes from movement between modes using objects, gesture, image or sound (Cope and Kalantzis 2015: 4). Understanding how the modes work together to support learning in science and the importance of multimodality in supporting multilingual learners, who are still learning the language of instruction in schools, or message abundance Gibbons (2009) was another area of focus.

Process for analysing the data

I use Barton and Hamilton’s (1998) step-by-step example for explaining ethnographic analysis. To select the data for the case study I used the methods suggested by Spencer et al. (2014) and I read through my annotations, listened to audio recordings and watched video footage numerous times to familiarize myself with the large amount of data that I had collected. I knew that my intervention had broad areas of focus, namely academic writing, multimodality and translanguaging, and visits to outside of university learning spaces. After several cycles of viewing and listening to the data, I was able to recognise categories for each broad focus area for example, in academic writing, I knew that I was focusing on one of the writing assignments of the core Education course and examples of professional writing such as a lesson plan. I then clustered the categories and started to sort the clusters of categories into themes.

Step 1: Reviewing and getting an overall sense of all the data

Since I had collected data over an extended period of time from March to December 2016, I had to get an overall sense of the data. I had four broad areas of data namely student interviews, academic literacies sessions, multimodality and multilingualism and site visits to outside of university learning spaces. I started with viewing and reviewing the audio recordings of the students’ literacies histories, then viewing and

reviewing the audio and video recordings of the academic literacies sessions, for all eight Education core course assessments. I also reviewed and annotated the academic literacies sessions on the professional writing assignments such as lesson plans and PowerPoint presentations though I did not have a complete data set of these for all the students since my main focus was on the assessments of the Education core course. I followed the same process of repeated viewing, reviewing and annotating the video and audio recordings of the 5-day July holiday workshops and followed the same process of reading and reviewing audio and video recordings as well as reviewing my fieldnotes of the five site visits to outside of university learning spaces.

I also viewed the video recordings of the academic literacies sessions and the 5-day July holiday workshops. I viewed the recordings, slowing them down to watch the interaction between myself and the students or to replay parts of a conversation to make sure I was annotating them in detail and correctly. I stayed open to what I witnessed and allowed the recordings to guide my understanding. I also used headings to note the themes and entered timestamps. I captured frames of the video recordings to create still photographs when I wanted to add another data source to support a transcription or provide another source of evidence.

Step 2: Reading and re-reading the data

I read and re-read the data set which included transcripts of interviews, transcripts of audio recordings and also added in data from other sources such as the PGCE Programme Information Handbook and Teaching Practice Handbook that were developed to guide and inform the students. I was looking for patterns, differences and unanticipated experiences or conversations. I did this to identify themes across the broad categories of data as well for each of the student participants and myself in the role of participant/observer and facilitator.

Step 3: Selecting the data

Selecting the data proved to be quite difficult given the extent of my data but after thought and consideration of my research questions, I selected data from the academic literacies intervention in the form of written texts. I also selected, multimodal data since my primary research question “How might a decolonial approach to academic literacies expand selected multilingual students’ repertoires of

practice and their production of texts in a teacher education programme at an elite English medium university in South Africa?”, focussed on expanding or developing both literate and multimodal student resources. I selected the following areas for detailed transcription. I decided to use the literacies histories of the students from the interview data; transcripts of the Classroom Discourse essay, Lera’s lesson plan and PowerPoint presentation; transcripts of Day 2 of the 5-Day July holiday workshops; and fieldnotes and transcripts of the site visits to the Science Centre, South African Natural History Museum, Education Student Conference and the Baxter Theatre.

Selecting written textual evidence for analysis

Providing academic literacies support throughout 2016 to assist five students with the Education core-course assessments and supporting the students with lesson plans and a book review created a very large data source beyond the scope of a single thesis. I thus decided to constitute the student writing aspect of my case study data from three primary written sources of the PGCE: the Classroom Discourse essay from the ‘Language and Literacy in Multilingual Schooling’ module of the Education core course and two examples of professional writing from the PGCE School Experience and teaching method courses, namely a lesson plan and the corresponding PowerPoint presentation. I chose the Classroom Discourse essay as one of the data sources because it provided students with opportunities to learn processes such as creating a transcript from an audio recording and included essay writing. I chose to focus on the lesson plan and PowerPoint presentations because these are two text types that are crucial to teaching practice. It was important for me to work with the students on their existing assessments because I believe that working on writing assessments from the PGCE programme made the academic literacies support more purposeful and relevant, enabling the students to meet university demands and learn the professional writing genres they would use after graduation in their professional positions.

Selecting multimodal data from the workshops and site visits

I used photographs as evidence for demonstrating how including multimodality was important to expanding the students’ repertoires of teaching practice and their production of texts. Using multimodal data was also important for demonstrating and analysing the multimodal aspects of my intervention that occurred on Day 2 of the 5-

day July holiday workshops and as evidence of student interaction at and experiences of the site visits to the Science Centre, South African Natural History Museum, Education Student Conference and the Baxter Theatre.

Types of data collected and research questions

Type of data	Data collection categories	Content of data analysis chapters	Research Questions
Audio recordings, with 1 audio recorder	One-to-one Academic Literacies (AcLits) sessions	History of Education essay; Classroom discourse essay; Lesson plans, PowerPoints	Primary Research Question (1) and Sub-question 1.2.
	Essay prep sessions	Classroom discourse essay	Sub-question 1.2.
	5-Day July holiday workshops	Workshops (focus on Day 2 Tuesday 12 July 2016)	Sub-questions 1.2., 1.3., and 1.4.
Video recordings, with 1 video recorder	One-to-one AcLits sessions	Classroom discourse essay	Question (1) and Sub-question 1.2.
	5-Day July holiday workshops	5 x daily workshops (60mins x5 only)	Sub-questions 1.2., 1.3., and 1.4.
Photographs and images	Digital images	5-Day July holiday workshop content; site visits to Science Centre (x2) and SA Museum	Sub-question 1.4.
Documents	PGCE Handbooks	PGCE Programme Info Handbook and TP Handbook 2016	Question (1); Sub-question 1.2.
	Written material, assessments and drafts	History of Education essay; Classroom discourse essay; Lesson plans	Question (1) and Sub-question 1.2.

		Teaching Practice Journals 1 and 2	Question (1) and Sub-question 1.2.
		PowerPoint presentations – workshops and lessons	Question (1) and Sub-question 1.2.
		University language policy documents	Question (1) and Sub-question 1.2.
		Course readers	Question (1) and Sub-question 1.2.
Interviews	Lera, Zara, Kagiso, Thabo and Zinzi	5x Literacy History and Feedback Interviews	Question (1) and Sub-question 1.1.
Fieldnotes	2x Notebooks	Book 1 One-to-one AcLits sessions: Book 2 – Workshops, Site visits and 2x Curriculum lecture observations	All research questions

Figure 3.6A: Types of data collected and research questions

Creating transcripts

Transcription is considered an important step toward data analysis and the conventions in the transcription key are guided by Bloome et al. (2008), listed in Figure 3.7 below. Once I selected a broad area of focus, for example the academic literacies sessions, I then selected a specific PGCE assignment, the Classroom Discourse essay as a source of data on academic literacies from the Education core course. I then decided to focus on one student only as I had limitations with regards to space and had other areas of the intervention to analyse. I selected my academic literacies sessions with Lera as my data source and I used Rampton's (2006: 32) process of "extensive listening" which entails several cycles of listening to generate draft transcripts and then re-listening and correcting transcripts where necessary to create the final transcripts to analyse.

Transcription Notation/ Conventions

. , ! ?	I used standard English punctuation conventions to make the transcription from spoken words to written words more understandable
...	Indicates a gap in the data
[Laughs]	Square brackets indicate additional information such as action or gesture
<i>Hayi</i> (No)	I use italics to indicate the use of a word or words in isiXhosa, isiZulu, Setswana, Afrikaans or Kaaps with the translation in English in brackets (No) where applicable
Name:	Refers to the name of the person speaking e.g., Kagiso:

Figure 3.7: Transcript conventions

Step 4: Reviewing and reading the data

I read and made detailed notes on the data I selected, deepening my interpretation and analysis of the transcripts and determining links with theory.

Step 5: Linking and connecting data

Here I looked for links with theory and the broader themes that I identified as well as similarities and differences between the students' experience, I also considered my intentions as academic literacies facilitator and whether I was able to carry them out and what kind of changes or adjustments I had to make. Some of the focus was on individual students, sometimes on how a space shaped the experience of students or how the students as a group responded to my facilitation.

Step 6: Selecting, grouping and interpretation of data during the process of writing up the analysis

I grouped the data into the following themes: early experiences of student learning and experiences of coloniality; facilitating and scaffolding academic literacies for a PGCE programme; using students' African languages as a resource in science learning and the role of visits to outside of university learning spaces. To strengthen the validity of my research and argument, I then identified more than one data source for each theme to provide evidence and link themes.

Constructing validity

In this small-scale single case study, I constructed validity (Heath & Street, 2008) through the collection and analysis of multiple sources of data such as interviews, field notes, the collection of documents and artefacts, audio and video recording as well as still photographs. I used as far as possible multiple data sources to support my analysis and to construct substantiated findings. I used data tables to provide an overview of the data collection and data analysis process and to provide evidence of the type of data I selected and which aspects of the intervention the data was drawn from. All the extracts used are named, the speakers identified and the content discussed and analysed in relation to the research question and theoretical framework. A crucial aspect to the intervention and analytical process were sections entitled “The facilitator’s critical reflections” where I reviewed my pedagogy and content decisions as well the students and my own experiences.

Conclusion

In this chapter I have shown how I implemented ethnographic data collection methods in order to construct a qualitative single case study. I explained my selection of research participants, tabled the timeline of my data collection and showed the different types of data collected over the course of my research. I have described the full data collection process as well as the data I selected to analyse and my thematic as well as multimodal and critical discourse analysis approaches to data analysis. Two important aspects of this data collection process was ensuring the anonymity of my research participants through the use of synonyms and using multiple data sources to construct validity. This research design and methodology chapter is followed by my first data analysis chapter in which I discuss the students’ experiences of coloniality, starting with their school experiences, including their undergraduate study experiences and ending with their PGCE experiences at the elite English medium university that was my research site.

Chapter 4: Language and Literacy Histories: Student experiences of coloniality in education

Introduction

Research has shown that student teachers' own experiences of schooling play an important role in shaping their future views on and practices of teaching (Britzman, 2003; Lortie, 1975 in Borg, 2004). Lortie (1975) in *Schoolteacher: A sociological study* coined the term "apprenticeship of observation" to refer to the reality of student teachers entering teacher training courses with more than a decade of experience as schoolchildren watching, observing and evaluating their teachers (Borg 2004: 274). This 'apprenticeship of observation', states Borg (2004: 275) is however just a partial view of teaching but can act as a default setting whereby the often traditional teaching methods observed and experienced as schoolchildren are implemented when the student teacher is under pressure or inexperienced. It is therefore important for language and literacies research focusing on student teachers to understand their prior educational experiences and how the student teachers' practices may be influenced by these experiences. Drawing on interview data on the students' language and literacy histories and previous educational experiences, this chapter seeks to answer the first subsidiary-question, "What are African language speaking students' early experiences of coloniality in education and how do these influence their understanding of the academic literacies and teaching demands in postgraduate teacher education?". I draw on the academic literacies as social practice approach that argues that to support students with literacies learning, researchers and practitioners need to understand the students' previous literacies experience. As Ivanič and Simpson (1992: 142) argue, it is not enough to work exclusively with student texts, in academic literacies "critical consciousness raising is crucial because it is important to learn about the people behind the academic writing". Ivanič (1998) also states that it is crucial to understand how the writer as biographical self, or the self that writes is constructed through prior experiences. From a decolonial perspective, learning about the students' prior educational

experiences reveals the coloniality of literacies practices in South African education, specifically the use of English as the official language of instruction or the language of learning and teaching (or LoLT as it is known in South Africa). English is also the language of assessment in school and higher education. I delink from two longstanding tropes that represent a deficit view of African language speaking students, namely the “myth of the decontextualized learner” (Boughey and McKenna, 2016) and students with “language problems”. I argue that a dominant theme in the data was the detrimental effect of monolingual English assessments and having English as the language of instruction. The data shows how fraught the students’ learning and literacies experiences were as a result of having monolingual English as language of instruction.

Research in South Africa unveiling the epistemic violence around language and education in schools (Alexander 1989 and 2003; Heugh 2000; de Klerk 2002; McKinney 2017; Makoe 200; Madiba 2014; Makalela 2015) and in higher education (Antia and Dyers 2016; Zipin, Fataar and Brennan 2015; Thesen and van Pletzen 2006; Kapp and Bangeni 2011; Jacobs 2013) is well established. However, such epistemic violence has not really been examined through the lens of coloniality, nor has much research focused on the particular impact of learning through the medium of an unfamiliar language, English, on trainee teachers. My aim in this chapter is to show how the learning experiences of the student participants were influenced and shaped by the continuing coloniality of the South African schooling system. Though I asked students about their school experiences around writing and language in the one-to-one academic literacies sessions, these informal discussions occurred in the many sessions over the research period. I then decided to hold semi-structured interviews to record the students’ literacy history and their feedback of the intervention. During the semi-structured interviews, students were asked to reflect on their literacy and language experiences at school, in undergraduate study and in the PGCE programme. The interviews started with an open-ended prompt and question, for example, “Can you tell me about your experiences of language and learning at school?” and “What languages did you use at school in the classroom?”. I then followed the conversation and listened as the students spoke of their experiences. I audio recorded these interviews, carefully listened and generated transcripts from

them and then analysed the transcripts using thematic analysis to surface the dominant themes. The students' experiences were varied and therefore I draw on specific student experiences as examples of different aspects of language use in education. To enact 'critical consciousness raising' about the students and to examine how the language and literacies of African language speaking students are constrained, this chapter is divided into three sections spanning schooling, undergraduate study and postgraduate literacies experiences.

Section One: Students' experiences of coloniality in schools

In this section I discuss the ways an additive bilingual language policy affects the learning and academic literacies of African language speaking learners in schools. The South African government's 1997 post-apartheid language policy promotes additive bilingualism/multilingualism and teaching in learners' home language and does not stipulate a change in the language of instruction in schools. The policy defers the decision on a school's language of instruction, to the school governing body (SGB) and this means that individual school governing bodies (SGBs) are mandated to develop the language policy of the school, including the language of instruction. The prevalence of English globally and the pressure on schools to produce English speakers, influenced the national Department of Basic Education (DBE) and the Provincial Departments of Education together with the school governing bodies (SGBs) to support the change in language of instruction from African home languages to English in Grade 4. The current curriculum introduced in 2012, enforces learning an additional language (usually English) from Grade 1 and supports a switch to English language of instruction in Grade 4. Very few schools have challenged the implementation of English as language of instruction from Grade 4 to Grade 12. Selecting and naming English as the official language of instruction in South Africa where most schools have African language speaking teachers and learners creates a disjuncture because in many schools, neither the teachers nor the learners have sufficient English language resources to make English a productive language of instruction. Thus, though English is named in school policy and is the desired language of instruction, the enacted oral language of instruction is a mix of African languages and English whilst "reading, writing and assessment are conducted solely in English" (Probyn, 2015: 220).

Included in the many reasons for schools naming English as the language of instruction is the assumption that using English as the language of instruction will produce standard English speakers and a significant level of English proficiency in learners. Another reason for schools listing English as the language of instruction is that under a phase of apartheid, English and the learning of science and mathematics were excluded from teacher education and the school curriculum of black African language speakers. This exclusion was based on race and was a deliberate act of suppression which had the effect of restricting black people's access to work and social and political interaction requiring English language resources, science and mathematics. In the post-apartheid era, this suppression made English a sought-after resource for African language speakers who were denied access to learning English previously. A third reason why English is considered an important resource is that it is the language used at most universities, in the workplace and a dominant language globally. As a result, most African language dominant schools have school policies that list English as the language of instruction despite the fact that most learners at the start of Grade 4 have not been taught enough English to switch to English as the language of instruction. In this way says Probyn, "the language medium becomes a barrier to learning" which results in a form of "linguistically structured inequality" (2015: 219).

Naming English as the language of instruction in schools where African languages are dominant means that the additive bilingual language policy is implemented in the following way: African language speaking children are taught in an African home language for three years from Grade 1 to Grade 3 while English is introduced as an additional language for 2-3 hours a week in Grades 1-2 and for 3-4 hours a week in Grade 3. Schools then change the language of instruction to English in Grade 4, the same year that learners are introduced to a variety of subjects (social science including history and geography and natural science, mathematics and life skills). The duality of increasing the subject content load whilst changing the language of instruction to English in the same year causes immense problems for 10 or 11-year-old learners who only have rudimentary English language resources. This also means that learners do not have enough English language resources to read the English textbooks, learn the subject content in mathematics, natural science or geography nor do they have enough English resources to write assessments in

English. To compensate between a school policy that prescribes English as the language of instruction and the reality of learners who do not really speak the language, teachers continue the oral use of the African language and both teachers and learners engage in “a range of compensatory behaviours, including code-switching, rote learning, chorusing and safetalk” (Plüddemann, Nomlomo and Jabe, 2010: 74). Negotiating English as the language of instruction happens through code switching described by Garcia and Lin (2017) as “the going back and forth from one language to another”, used by people speaking more than one language and often “used by teachers to scaffold the teaching of additional languages” (118). Chick (1996: 29) described chorusing and safetalk as patterns of teacher questions or prompts and learner group or choral responses to these questions to “signal participation rather than level of understanding”. ‘Safetalk’ occurs when learners in chorus, “repeat information on the board or information which has been recycled” or continuously repeated by the teacher (Chick, 1996: 29).

The movement between languages made illicit by monolingual ideology and policy is recognised globally as an accepted practice of people who speak more than one language. Though the movement between languages and the use of more than one language by bilinguals and multilinguals has generated many terms in research, I use the term coined by Williams (1994) who translated the Welsh term “*trawsieithu*” into translanguaging. Translanguaging as it occurred in Welsh schools is described by Garcia and Lin (2017) as “a pedagogical practice in bilingual education that deliberately changed the language of input and the language of output” to support learning (119). Now, it is used to describe the use of more than one language in social contexts as well as in educational contexts and, translanguaging is viewed as different from code-switching. Garcia and Lin (2017) argue that code-switching is viewed as maintaining the boundaries between languages while translanguaging views the use of multiple languages as a continuous, dynamic and unified repertoire. Citing Lewis et al (2012a), Garcia and Lin state that in translanguaging, “both languages are used in a dynamic and functionally integrated manner to organise and mediate mental processes in understanding, speaking, literacy, and, not least, learning” (2017: 120).

Research in schools where African languages are used daily show teachers faced with a difficult decision of either translanguaging and moving between the African home language and English or failing learners who are not able to understand the content nor complete assessments in English. The teachers' use of learners' home languages to support school content in English is not "fully sanctioned by education authorities, or indeed by teachers themselves, but instead is generally regarded as a deficit practice a teacher referred to 'smuggling the vernacular into the classroom'" (Probyn, 2015: 220). Despite English being the named language of instruction, most South African learners do not have sufficient access to English resources to become proficient in English thus making the continued pressure for and unsupported use of English as the language of instruction, problematic from a decolonial and social justice perspective.

The challenge of additive bilingualism and the dominance of English for multilingual teachers

I now discuss the language and literacy tensions experienced by African language speaking teachers as a precursor to understanding the type of 'apprentice of observation' (Lortie 1975; Borg 2004) the student teachers experienced during their own schooling. Though the traditional teacher-centred manner of instruction is prevalent in many schools in South Africa and globally, part of the "apprentice of observation" experienced by African language speaking learners, is their teachers engaging in translanguaging and learners using rote learning to memorise school content in English. Decades ago, Setati et al (2002) stated that teachers face competing, and complex demands namely, to "embrace an additive model of bi/multilingual learning, and at the same time deal with the popular demand for access to English" (2002: 136). This sense of competing demands exists because there are no real learning resources nor teacher training to support an additive bilingual model of education in South Africa. For example, resources such as textbooks and even most curriculum documents are in English. The reason for this absence or lack of bilingual/ multilingual educational pedagogy that uses African home languages to support learning English and school content in English is the prevalence of monolingual ideology and the belief that languages should not be

mixed because mixing African languages (or any language) and English is perceived to devalue standard English (McKinney 2017). Garcia and Kleifgen (2020) critique the policy of additive bilingualism saying that it is conceived by monolingual speakers who from their perspective view languages as autonomous, having clearly identifiable boundaries which need to be maintained so that languages are kept separate and not mixed. But in schools with a majority of African language speakers, teachers have no choice but to mix English and African languages by switching/ shifting/ translanguaging between two (or more) languages to bridge and support African language speaking learners learning school content in English.

In the absence of teacher training and bilingual/multilingual resources such as textbooks, teachers have used translation and translanguaging as a pedagogic strategy. But as Setati et al (2002) noted the demands on teachers vary according to the school subject that they teach. For example, English language teachers and content subject teachers have to meet different demands. English language teachers have to teach English as an additional language and are viewed as carrying the responsibility for developing the learners' English language resources. While mathematics and science teachers have to teach the subject content and the subject discourse when learners are still in the initial stages of learning English, the language of instruction (Setati et al, 2002: 129). While some research does acknowledge translanguaging as credible and authentic classroom strategies, Probyn (2015) notes that "there is little training that guides teachers towards a coherent systematic approach to using both languages in the classroom in ways designed to enhance opportunities to learn" (220). Krause and Prinsloo (2016) point out that unfortunately, without official sanction, mixing African languages and English to support learning remains an almost illicit or "undercover" practice that transgresses school policy. Most importantly, teachers' translanguaging practices are undermined by assessments which are in English.

Whilst previously, I focussed on the challenges for teachers, next I focus on the challenge of additive bilingualism and the dominance of English for African language speaking learners. I foreground Zara and Zinzi's experiences and juxtapose the other students' experiences at school with theirs. I do this because Zara's recall of her early childhood experiences at school was particularly detailed, and she

attended three primary schools with very different language environments. Similarly, Zinzi also experienced significant changes in school experience, she attended an isiZulu primary school and an elite English medium of instruction high school. Three students, Lera, Kagiso, and Thabo attended primary and high schools that were linguistically more homogenous where the majority of learners shared the same African home language as their teachers. I also draw on all the students' experiences to demonstrate how African language speaking children are taught to misrecognize their language resources as deficient and how English is established as the only language for knowledge production in school (Janks 2004; Makoe 2007, 2014). The participants' experiences show how in aspiring to pass school and in the absence of bilingual and multilingual teacher education and training, learning for these students is a violent, silencing and disempowering process.

In making an argument for the need for teacher training in bilingual/ multilingual teaching methods, I use as evidence Zara's experience of migrating from the rural Eastern Cape to the urban Western Cape and examine how her learning experiences were influenced and shaped by the language practices of the schools she attended. Setati et al (2002) state that the language in education policy "does not sufficiently consider the differing language infrastructures of schools and communities" (Setati et al., 2002: 146). But it is not just that rural and urban areas have differing language infrastructure, the policy, I would argue, does not take into account learner and teacher migration or movement, where rural to urban migration for work or education is a reality of South African life. While the policy advocates for mother tongue instruction and additive bilingualism with an additional language added in Grade 4, it does not account for the dominance of English, nor does it support learners who migrate across provinces or geographical areas. Zara moved from the rural Eastern Cape where isiXhosa is the dominant language and hardly any English is spoken to the Western Cape where English, Afrikaans and isiXhosa are used and there is much more translanguaging and mixing of languages. Zara's movement and attendance at three different primary schools show the type of difficulties African language speaking learners' experience, especially those that migrate from more homogenous language contexts to heterogenous language contexts.

Zara's school experience began in the rural Eastern Cape where she lived with her grandparents after her parents moved to the Western Cape for work. The first school she attended was a small multigrade rural farm school in the Eastern Cape where she attended Grade R (Reception, ages 5-6) to Grade 4 (ages 9-10), next she went to a peri-urban school in the Eastern Cape for Grade 5 (age 11) and she completed primary school at an urban school in the township of Delft in the Western Cape for Grades 6 and 7 (ages 12 to 13). She remained in the Western Cape and attended high school in Delft. Zara described her first years at school, Grade R to Grade 4, saying, "So I went to a primary school, but it was in the Eastern Cape, on a farm". Zara recalls the following language practices at the farm school in the Eastern Cape:

So, it was basically a small school so we didn't have much English so it was just isiXhosa cause everyone was isiXhosa speaking. And we did learn English, but it was sort of, the teacher taught [English] speaking isiXhosa but the answers would have to be in English. And the communication was in isiXhosa

(Extract 4.1. Zara comments on the farm school)

Ringbom notes that in most rural areas, learning English is similar to learning a foreign language because "the language is not spoken in the immediate environment of the learner" and "There is little or no opportunity for the learner to use the language in natural communication situations" (1987: 27). The homogeneity of the language context in the Eastern Cape is expressed in Zara's words "everyone was isiXhosa speaking". In Grades R to 4 Zara's English use was mediated by the teacher's isiXhosa language of instruction and limited to one subject, English. At this stage, except for English lessons, all Zara's schoolwork was taught and written in isiXhosa.

Learners changing schools and language environments

When Zara moved from the isiXhosa dominant farm school at the end of Grade 4 to her second school, a peri-urban school in the Eastern Cape to attend Grade 5, she experienced the additive bilingual language policy and English as a language of instruction for the first time. Unlike her previous experience at the farm school, at the second school, she experienced the change from isiXhosa language of instruction to

isiXhosa/English mixing and switching or translanguaging. Though most school policies stipulate a change in language of instruction from African language to English in Grade 4, this could occur later in Grade 5, like Zara's experience shows. It could also occur earlier as Makalela (2017) notes, since schools can choose their language of instruction, some schools follow an early immersion into English by implementing a "straight for English' policy" focussing on "total assimilation" where English is used as the medium of instruction from Grade 1 and not in Grade 4 as is the common practice. The schools Zara attended, in changing language of instruction in Grade 4, used a "partial immersion [approach] transitioning into English monolingualism" (Makalela, 2017: 305). However, this partial immersion into English monolingualism is not easy for young learners. Zara recalled the difficulties she experienced in Grade 5 at age 11 when she first encountered teachers trying to implement English as the language of instruction despite the fact that English was not the dominant language of the teachers or learners:

I was used to having 15 people in one class [at the farm school] then now you go to a township where you have 30 something people in one class and there is a lot of people and this one teacher who gets tired by just saying [in isiXhosa] 'Good morning class', and then 'Here's the work you do it. You figure it out yourselves, there'll be a test some other day' and then you have corporal punishment in the mix. It is sort of like if you didn't understand the work, the teacher didn't have time to consult with you. If you failed the test, come revision time, you getting corporal punishment cause if you can't answer the questions, they beat you up and then you just have to survive and move along with everyone.

(Extract 4. 2. Zara on moving from a rural to a township school)

In Grade 5 in addition to changing the language of instruction, from isiXhosa to isiXhosa/English Zara also had to negotiate the larger class size with more than 30 learners; as well as the teacher's traditional or what Cope and Kalantzis call "Didactic pedagogy", which "positions the teacher as an authority figure and the student as a beneficiary of the Knowledge" (2015: 7). Zara remembers the use of corporal punishment to enforce compliance with "learning through an unfamiliar language" (McKinney, 2017). Zara recalls the teacher's detached attitude expressed in the words "You figure it out yourselves, there'll be a test some other day" which also reveals that much of Zara's learning was focused on tests and assessment. If the

learners did not study, they faced corporal punishment revealed in the words “they beat you up”. Unlike the farm school, where Zara said, “I remember just enjoying being at school”, Zara experiences the peri-urban school in the Eastern Cape as a place where “you just have to survive and move along with everyone”.

Covert translanguaging

Though translanguaging is not sanctioned and actively discouraged by the South African Department of Education, Zara’s experience reveals its prevalence. Zara recalled that the language used at her second school in Grade 5 “was just that system of not much English, the teacher speaks in isiXhosa but you have to write things in English”. Krause and Prinsloo (2016) note the prevalence of this practice in their research in a Khayelitsha primary school in Cape Town, where the school language policy listed English as the language of instruction, but the classroom talk between teacher and learners and between learners consisted of translanguaging using isiXhosa and English resources, and while teachers seemed not to explicitly support translanguaging, it was “sustained and nurtured in their classroom practices” (Krause and Prinsloo, 2016: 351). Translation and translanguaging are the primary coping mechanisms used by teachers to resolve the disjunct between learners speaking isiXhosa and the pressure to use English. Garcia and Kleifgen (2020) writing on the rights of multilingual Spanish/English speakers in the USA argue that mixing languages is a normal valued practice amongst multilingual speakers. Makalela (2015) writing about translanguaging in the South African educational context makes a similar point after observing teachers provide explanations in isiXhosa after which students have to complete all written work and assignments in English. Taking a translanguaging approach to learning that includes the use of one language to support learning subject content in another language differs, say García and Kleifgen, (2020: 8) from traditional monolingual approaches where the same language is used for teaching input and learner output.

However, the mitigating effects of the teachers’ undercover and covert use of translanguaging are compromised as the assessments are still in English. The effect of assessments in English for multilingual learners is demonstrated in Zara’s recall of her Grade 5 results in the year she first encountered English as language of

instruction and English assessments. She recalled, “I remember my first report, the only thing I passed was isiXhosa, cause it was the only thing I understood”. Even with the teacher translanguaging, Zara did not have sufficient English resources to cope with learning subjects like mathematics and science and she did not have enough English resources to answer assessments in English and pass her tests. Probyn (2015) points out that researchers who value multilingualism and support teachers’ use of African home languages in the classroom often recommend that code-switching is “recognised as a legitimate, practical response to the problems of teaching through an additional language” (2015: 220), but she also acknowledges that code-switching and using African languages in the classroom, is undermined by the fact that assessments are written in English only. The result of having to produce written work in English for content subjects like science, geography and history whilst in the second year of learning English meant that Zara failed the first term, and her low results indicate that learning English as an additional language for a few hours per week was not enough preparation. This meant that Zara who previously had passed and enjoyed school now failed and was positioned at age 11 in ‘survival’ mode at school.

After visiting her parents in the Western Cape for the December holidays and arriving back at her grandparents’ house in the Eastern Cape, Zara realised that she wanted to return to the Western Cape and live with her parents. She recalls arriving back in the Eastern Cape after the holiday and saying to her grandparents “I wanna go back to Cape Town [in the Western Cape]” and said further “they [grandparents] had to send me back [to Cape Town]”. Moving to the Western Cape to live with her parents also meant that Zara had to change schools. Zara said of moving to the Western Cape to attend her third primary school in Delft, “it was a struggle cause at school [in the Eastern Cape] I used to speak isiXhosa and then I had to learn everything in English [at the Delft school in the Western Cape]”. Unlike her previous experience in Grade 5 at school number two, the peri-urban school in the Eastern Cape, where the teachers translanguaged between isiXhosa and English and where Zara could consult with classmates who spoke isiXhosa when she did not understand school content, at school number three in the Western Cape, there was no isiXhosa/ English translanguaging in the classroom. At the Delft school, the teachers all spoke English to the learners and taught in English. Even though there

were isiXhosa speakers at the Delft school in the Western Cape, the majority of the learners spoke a mix of English and Kaapse, a creole version of Afrikaans. Thus, Zara who only spoke isiXhosa and very little English, could not understand the teacher or most of the other learners. Zara recounts her experience at school number three in Delft, in the Western Cape:

First, I couldn't understand, and sad thing was when they had to do the register, once in a while they had to do the register where they ask for learners that were in that school and then the new learners. The most embarrassing moment, when they're asking for the new learners, all I could do was sit and watch that when everyone is rising their hands up, I know that they're asking for the learners that were in that school, and then when they ask a question and no one raises their hand up, it's time for me to raise my hand up. Cause I couldn't understand the question and then most times I would lose myself in class cause I don't even know what the teacher is saying, what he is talking about.

(Extract 4. 3. Zara, on schooling in Delft, Western Cape)

Unable to speak or understand the teacher who spoke English left Zara a silent observer while she tried to figure out what was being taught. Zara recounts "The most embarrassing moment, when they asked for the new learners, all I could [do was] sit and watch". She experiences anxiety and embarrassment because not understanding English makes a simple action like raising your hand during roll call "a sad thing". This period of being silenced caused feelings of being lost, as Zara said, "I couldn't understand the question and then most times I would lose myself in class cause I don't even know what the teacher is saying, what he is talking about". Zara sat silently at school for six months and failed all but two subjects, isiXhosa and life orientation (LO).

Zara was able to move from this position of being disempowered and silenced through several interventions. Firstly, her mother went to the school and told the isiXhosa subject teacher that Zara was from the Eastern Cape and that she could speak very little English. Zara recalled "my isiXhosa and my LO teacher was a black person [African language speaker], so my mom had communicated to him, that this was the situation. So, it was sort of like, he let all my teachers know and then they let me sit with Suzanne in all my classes" (Zara, literacy history). Only once the isiXhosa teacher was made aware of Zara's previous early schooling and language and

literacy history did the conditions of her learning change because the teacher then paired Zara with another learner in the same class, a multilingual girl named Suzanne who acted as a “language broker” interpreting and translating teacher instructions and school content for Zara (Makoe and McKinney, 2009). Zara reflected on the role Suzanne played saying, “Suzanne, she really did help me cause she understood isiXhosa, Afrikaans and English”. Thirdly, Zara engaged in a significant self-study effort and through these efforts was able to pass at the end of the year. I focus now on the importance of the learner Suzanne who acted as a language broker for Zara as well as Zara’s own self-study habits below as these two aspects are part of the unacknowledged agency and skill of multilingual learners that need to be made visible.

The use of language brokers to support learner understanding: Zara’s experience

Makoe and McKinney (2009: 81) describe a learner who “was able to use her multilingual proficiency in local languages as a valuable resource to facilitate the participation of her peers in classroom life”. They cite Tholander and Aronsson’s (2003) finding that positions of ‘language broker’ or ‘sub-teacher’ are more frequently taken up by female learners (Makoe, and McKinney 2009: 81). Makoe and McKinney further note that much of this work was “invisible” because it was negotiated amongst the children (2009: 85). There were however also periods where the teacher actively asked the learner to mediate learning and translate from English into an African language to assist other learners with understanding classroom tasks. Thus, when necessary, the role of ‘sub-teacher’ “or mediator position is supported by the teacher” as well (Makoe and McKinney, 2009: 86). In Zara’s case the teacher paired her with Suzanne who acted as a language broker. Zara recalled how this interaction between them worked saying, “So my teacher would let me sit with Suzanne so I would speak isiXhosa to her and then she would speak English and then in that sense I would be able to understand the English and then speak isiXhosa still” (Zara, literacy history interview).

The use of language brokers at an elite high school: Zinzi's experience

Next, I draw on Zinzi's experience, as she went from an isiZulu dominant primary school to an elite English medium high school. I discuss how the elite English high school that Zinzi attended used older isiZulu speaking students to act as language brokers and literacy tutors for younger isiZulu speaking learners. Zinzi recalled:

I went to a black Zulu primary school and a model c high school. When I started learning English there it was very difficult because I had just come from a strictly Zulu school into an English medium high school. But there were problems there, but they helped us because I was not the only one. There were others that came from other black schools. So, at our school we had SMILE programme which was based on... um... the Grade 10 and Grade 11 would assist us because we were in Grade 8 with reading and writing. And then also we were expected to go to a nearby primary school, a nearby Zulu primary school and teach English there. So, they were teaching us, and we were teaching others. So, it worked well because we developed a lot from that. And then, I started reading a lot cause we were encouraged to read and from reading my English improved. I opted reading instead of watching TV cause we were told 'Read, read, read'. So, then that's when my English improved. *Ja* (yes), everything was fine at school.

(Extract 4.4. Zinzi on moving to an elite English medium high school)

Zinzi thus experienced her first major language shift when she went to high school. Zinzi's school created a tiered system of literacy support where older African language speaking Grade 10 and 11 learners would assist the emergent bilingual Grade 8 learners with reading and writing in English. This literacy tutoring and mediation was carried over to a nearby isiZulu dominant primary school where the Grade 8 learners had to tutor the learners in the lower Grades in English. Though the school provided support and extended the support to a nearby primary school it was a system of improving English to provide learners with better access to English texts and school knowledge. Janks (2004) refers to this as the access paradox where learners need access to English resources to perform better educationally and improve their English, but this process creates more English speakers and further entrenches the hegemony of English. When learning English is supported as in both Zinzi and Zara's cases, school becomes easier, but the effect is one of subtractive bilingualism as their African home language resources are not maintained. Thus, the additive bilingualism advocated in the national language policy was in reality a policy

of subtractive bilingualism where the students' own African language resources were not being drawn on or integrated into learning experiences beyond learner-to-learner interaction for the purpose of learning to speak, read and write in English. Like Zara, Zinzi also started self-study and read to improve her English. I focus next on how both Zara and Zinzi were agentic and learned to construct their English repertoire discursively through reading English texts.

Students acting with agency: Unseen and unacknowledged learning efforts

Since the change to English as the language of instruction happens abruptly without a gradual increase in English and without the support of bilingual texts and teacher training, students often end up teaching themselves English or even if they do have some support like Zara and Zinzi, they have to focus their efforts on improving their English resources by themselves. Zara reveals how she engaged in self-learning English through reading and television. She said, “when I realised, I was really struggling with English, I watched more TV so I would watch a lot of the soapies⁴ because I know they have the subtitles so when I’m watching I would read the subtitles and then my mom would bring newspapers and things like that so I would read a lot” (Zara, literacy history). Zara’s words “when I realised, I was really struggling with English”, demonstrates Kramsch’s (2012) point, cited in Garcia and Kleifgen (2019: 8), that “Multilinguals can experience a transformation when they realize the artificial and constructed nature of the categories imposed on them”. Zara realised that the deficit was actually systemic and not with her. It is also striking that Zara uses popular television programmes to support learning English for school. It is significant that in popular culture, language differences are bridged through the use of subtitles to engage and communicate with a wider known multilingual audience, whereas the government school did not offer any official strategies for bridging African languages and English. Zara also noted the two key aspects to learning English without a phased bi/multilingual or translanguaging pedagogy stating, “it was the reading, the TV, the newspapers and then Suzanne”. Most learners do not

⁴ South Africa has many popular soap opera television shows (soapies) that are multilingual and run subtitles in English.

receive mediation in the initial transition between African languages and English outside of school in meaningful ways and the fact that Zara's learning of English was mediated by another learner, Suzanne who acted as a language broker shows how important translanguaging was to support her language learning. Zara's experience also reveals that in working class and poorer communities, parents can and do initiate positive change in their children's schooling.

Though Zinzi also had active mediation between isiZulu and English, her experience differs from Zara's experience because the elite school that Zinzi attended had access to a programme that organised learners to act as language brokers for each other. Zinzi also made the realisation that the problem was with the need for English resources and that to improve at school she had to improve her English saying "I started reading a lot cause we were encouraged to read and from reading my English improved. I opted for reading instead of watching TV cause we were told 'Read, read, read'". Once she engaged in reading English she said, "everything was fine at school". Also significant is the fact that at the government school, Zara is an individual struggling on her own using popular media like television and newspapers, whilst Zinzi at an elite school is part of a group of learners in a supported programme reading books and being empowered to teach younger children. Even with this support both Zinzi and Zara had to engage in self-study and reading to reach a level of English proficiency that would allow them to pass at school, a level of proficiency that most English home language speakers arrive with at school since they have already been immersed in the language of instruction since birth.

The additive bilingual language policy and student learning in high school

Zara's experience in high school demonstrates that African language speaking students continue to face obstacles learning through English as the language of instruction. While Setati et al., (2002) noted that Science and Mathematics teachers face difficulties teaching both English and subject specific discourse, Zara's experience shows how other subjects can also present difficulties for African language speaking students. Zara recalled that though at "high school it was better because the two years of learning English [Grade 6 and 7] they were so difficult at primary [school] but at least I managed to learn most of the communication words

and when I got to high school still everything was English” (Zara, literacy history interview). What was difficult for Zara was speaking in English. She said, “the difficulty comes with speaking. Cause sometimes if I had to write things, I would write them and then still feel ok. But then when I had to speak in front of people, *hayi* [no], it would go terribly wrong”. The subjects that were most demanding were life orientation and English, she remembers, “in LO [life orientation] and in English you had to have the orals, [and] there was just basically no confidence at all”. She refused to participate in an assessment that required an oral presentation, stating, “I remember for my arts and culture [LO assignment] I think I got a zero” she remembers thinking to herself “I’m not gonna speak English in front of everyone and embarrass myself”. In Goffman’s (1955) terms, Zara feared a ‘loss of face’ a real consideration as emergent English speakers like Zara are often viewed as deficient if they can’t speak in English. Zara reflected on that saying, “sometimes I would struggle with the talking and my classmates would understand but some of them they would laugh”. Zara said,

I came to realise that the people making fun of me don’t know English too, it’s just that they were comfortable because they are able to communicate in class with other people but when it comes to learning [they struggle too]”.

(Extract 4. 5. Zara, on struggling with English)

To demonstrate how teachers in high school managed the disjunct between English as the language of instruction with African home language learners, I now draw on another student, Lera, a Setswana speaker’s experiences in a Setswana dominant high school. Lera’s experience demonstrates that African language speaking high school teachers employ similar coping mechanisms to those found in primary schools. Though the teachers and the learners at Lera’s school spoke the same African language, Setswana, English was the language of instruction, assessment and the language in the textbooks. Lera recalls:

With some teachers it’s either everyday language [in Setswana], or it’s scientific language [in English]. But some, they never switch [to English]so you get confused, when you see the [English] question paper, you’re like, ha uh, I’ve never heard of this [word, for example] ‘curriculum’, what the hell is this word?

(Extract 4.6. Lera discusses her teacher's use of language in school)

Lera's words show that there was a range of teacher responses to the language policy, when she said, "Some teachers it's either everyday language [in Setswana], or it's scientific language [in English]". Both Lera's experience and the research of Probyn (2006; 2015) and Krause and Prinsloo (2016) provide evidence of the difference between the formal school language policy and the language use enacted in the classroom. Teachers' language use surfaces particular difficulties for learners. If the teacher used the regional African language, then the learners could understand the content through her translation and mediation, but most learners then struggle to communicate their knowledge in the English assessment. The result is as Lera says, "you get confused, when you see the [English] question paper, you're like, ha uh, I've never heard of this". When Lera was asked about her school experiences she drew a parallel with her experience as a PGCE student. Having been taught school content in Setswana, Lera recalls being bewildered by the English words in the assessment, words that seemed unfamiliar. She says, using an example from her experience in the PGCE programme "this 'curriculum', what the hell is this word". Her sense of frustration and anger at the position she is in, that is, constrained by limited English resources and unable to decode the word and therefore only guessing at what the answer could be, is expressed in the exclamation "what the hell is this word?" Janks (2009) describes decoding as the task that readers have "to make sense of the written code [word] to work out what the text is saying. This necessitates competence in the language" (21). Conversely, those teachers who use English only in African language dominant classrooms, alienate the learners daily because the learners cannot understand what is being taught. Though teaching in English is adhering to the language policy of the school, the result is that learners do not understand the content and for the African language speaking students in my research this spans their school career of over 8 years (from Grade 4 to Grade 12). Both teachers and learners are thus caught in a linguistic double bind created by schools opting for English as the language of instruction in school contexts where African language multilingualism is the norm (Makalela, 2015).

This linguistic double bind also affects the pedagogy that teachers used in the classroom. The teacher's use of revision and repetition as pedagogy often meant

that they were not able to cover the curriculum. Lera describes how teachers compensated for the time shortage created by repetition:

what they'll [teachers] do...Maybe they'll spend more time covering the same topic over and over and then when they realise that they don't have enough time, to finish everything, they'll call you for afternoon classes, Saturday classes, when you get there, *yoh* (gosh), he pushes everything in, in two hours. And now when you get home, now you have a lot of work to do. You don't even know where to start...so you're also working under pressure so most of the work there, so it was like that. So, most of the stuff that we did there, you didn't do them to understand, you just did it to cram, pass your test, move to the next level.

(Extract 4.7. Lera, learning for tests in a second language)

This pattern of constant revision of the same lesson and then the rush to complete the bulk of content in a short time is noted in Chick's (1996) work and it seems as if the teacher then places the burden of learning the content on the learners, as Lera says "*yoh* (gosh), he pushes everything in, in two hours. And now when you get home, now you have a lot of work to do. You don't even know where to start". Since learners could only cope with learning in an unfamiliar language through rote learning or memorization, the aim of learning was as Lera said, to "pass your test, move to the next level". Learning is experienced and associated with pressure caused by the need for 'cramming' or memorisation of large amounts of information in a short amount of time, in an unfamiliar language. Kapp's (2004), research reveals that in some low resourced multilingual schools, teachers provide students with a "scope" which she states is "The practice of [teachers] cataloguing of items and mapping out model answers" for learners and this was especially prevalent in subjects like biology with a lot of detailed content (255). Rote learning (also known as 'drill and practice' in the USA) does not allow for "instructional conversations" instead, "superficial facts and skills are substituted for inquiry and deep understanding" (Gibbons, 2009: xi, Foreword). Learners like Lera experience education as moving through "levels" dependent on assessments and a series of tests that either allow or stop learner forward movement depending on their results. This drill and practice way of learning was able to get Lera through to Grade 12, however, she did not qualify for university entrance with her first set of results. To qualify for university entrance, Lera chose to spend another year relearning and

rewriting three of her Grade 12 subjects, life science, mathematics and physical science. This redoing shows the limited nature of rote learning or 'drill and practice' and memorisation as a way of retaining school knowledge. As Lera says "you didn't do them to understand, you just did it to cram, pass your test". Passing the test is important but as Lera's experience indicates, often learners have to redo subjects to qualify for university entry because memorisation of large amounts of content in a short time in an unfamiliar language is not a very effective way of learning or developing understanding even if it is the primary way most multilingual learners navigate exams and tests in English, their additional language.

Section Two: Student university experiences

In the previous section I focused on the students' school experiences and how they had to navigate learning both the language of instruction and school content at the same time. In this section, I focus on how African language speaking students navigate English as a language of instruction at university. I draw on the students' experiences as undergraduates at university to show how that dual process of learning the language of instruction and disciplinary content is a pattern that continues at university for some students. Those students that attended low-resourced government schools in a township, where learning consisted of rote-learning and reproducing English school content, found the writing demands at university especially challenging. Setati et al note that in most government schools, "written work was restricted to exercises, typically in symbolic form. There were also few opportunities for learners to use and develop spoken and written English" (2002: 138). I focus specifically on the experiences of Lera, Kagiso and Zara who attended the same historically black university (HBU) even though they did not know each other at the time and were enrolled for different courses. Fataar (2018), citing Dhunpath and Vithal (2012), argues that it is not just a matter of viewing students coming from low resourced schools as underprepared to meet the demands of university but that universities should also be viewed as underprepared to meet the needs of students who are multilingual and/or from poor backgrounds. Some universities have taken some action and showed intent toward change by acknowledging language as a resource in their language policies. At the HBU in the

Western Cape that Lera, Kagiso and Zara had attended as undergraduates, a trilingual language policy promoted the use of the three dominant languages of the region English, Afrikaans and isiXhosa. According to the policy, “Lectures, tutorials and practicals for any module will be delivered in the language formally approved by the faculty concerned. If lecturers are competent users of other languages, they are encouraged to use these languages in addition to the main language of teaching if such a practice facilitates communication of discussion” (University of the Western Cape Language policy- Approval date C2003). The language policy of the HBU also stated that students should be supported by tutors who can “assist students in Xhosa, Afrikaans as well as English”. However, the language used in writing tasks, assignments, tests and examinations “Unless otherwise negotiated between a student and a class or a lecturer...shall be English” (language policy- Approval date C2003). Thus, the policy primarily promotes the use of languages other than English in small groups and in oral exchanges and in teaching where possible however, writing essays and assessments were still largely in English. Like the students’ experience at school, the data will show students taking individual responsibility to learn English and writing in academic English at university, whilst learning the course content. This is part of the ‘normalcy effect’ of English monolingual ideology in which African language speakers reorient their language practices to adhere to dominant languages like English. A significant difference between the demands of schooling and those of university was that at university there is a greater emphasis on academic writing in English.

Poor student throughput especially the graduation and pass rates of black students and students from poor backgrounds are often blamed on the students having insufficient English language and literacies resources as well as attending poorly resourced schools where learning occurred primarily through rote learning (Kapp and Bangeni, 2011; Fataar 2018). Research that does not take this student context and history into consideration, creates deficit discourses, one of which Boughey and McKenna (2016) have called the ‘myth of the decontextualised learner’. This myth separates the student from his/her cultural context, languages and history (Boughey and McKenna, 2016: 6). The discourse of the decontextualised learner, Boughey and McKenna state, presents “poor throughput and retention rates [at university] largely in terms of problems inherent in the student” who is not “understood as a

social being bringing with her [/him] a range of literacy practices” but that he/she does not do well due to “levels of motivation, cognition, or language abilities” (2016: 6). The analysis of the data in this section of the chapter will show the challenges that the students faced, and the high levels of motivation African language speaking students need to succeed in a system in which they are always trying to catch up to their monolingual English-speaking peers.

Student academic literacies and language experiences at university

Kagiso’s experience below reveals, that some students' first encounter with English as the exclusive oral language of instruction occurs at university. He says of his experience at university and of having to learn in English:

So, after matric I went to university, enrolled for the BSc Chemical Sciences. *Ja* (Yes), it was very tough for me just because everything was done in English. So, first year was very challenging. I couldn’t adapt, easily just because, I nearly failed the first year. *Ja* (Yes), the first year I nearly failed ...but I didn’t. *Ja* and then second year I adapted, then third year was fine for me but English, it has always been an issue for me. Just because...*ja*...just because of the background where I am from...*ja* ...and I also blame myself for that on the other hand just because I couldn’t. Ah...I’m not developing myself like reading books and doing anything that will help me in my [English] language and literacy. You know when it comes to writing...[laughter] I struggle a lot. I struggle a lot...*ja*.

(Extract 4.8. Kagiso, on the difficulties of learning in English)

Kagiso remembers his first year at university as “very tough”, “very challenging”, “I couldn’t adapt easily” and “I nearly failed the first year” because he was learning academic English and all course content was presented in English; as he said, “everything was done in English”. Kagiso’s repeated use of the intensifier “very”, demonstrates the severity of his experience. Kagiso clearly links his struggles at university to English when he said, “English has always been an issue for me...because of the background where I am from...”. Here Kagiso seems to have internalised monolingual ideology that constructs isiXhosa and African languages as a problem and locates the problem with his own practices when he says, “I also blame myself for that on the other hand just because I couldn’t. Ah...I’m not developing myself like reading books and doing anything that will help me in my

[English] language and literacy”. In deficit discourses, the responsibility for historical disadvantage and mediating or correcting the disadvantage is often left to the persons most affected. Kagiso sees his development as entirely linked to his individual effort and not to the need for change in educational or institutional language policy and practice.

Negotiating essayist literacy for the first time

Lea and Street (1998) reveal the challenges all students face with conforming to essayist literacy and writing essays at undergraduate level and these challenges are compounded for African language speaking students. I draw on Kagiso and Zara’s experience of academic writing courses during their undergraduate study, specifically how they learned to write essays and learned to conform to essayist literacy through attending courses that employed the autonomous skills approach to writing. According to Lillis (2001), Gee (1990) describes the features of essayist literacy (writing or speaking) as follows: it is writing or speaking that is linear; “it values a particular type of explicitness, it has one central point, theme, character or event at any one time, it is in the standard version of a language” and its aim is “to inform rather than to entertain” (38). Other features include explicitness, the writer has to be “explicit about logical implications” (38) and the “process of writing and editing essayist texts leads to an effacement of individual and idiosyncratic identity’ (Gee 1990: 63)” (Lillis 2001: 39). In contrast to essayist literacy, a social practices approach to literacies and learning is expressed by the New London Group who writes that “to be relevant, learning processes [and writing] need to recruit rather than attempt to ignore and erase, the different subjectivities, interests, intentions, commitments, and purposes that students bring to learning” (2000: 18). I draw on Kagiso’s experience of learning to write academic essays during undergraduate study. Kagiso attended a compulsory writing course for science students, but this was not a positive learning experience for him. Kagiso said:

Ja, yoh (gosh), there was a lot of essays. We had to write essays there yoh (gosh), I struggled. I failed lot of essays and I had to rewrite them, and I passed it, I passed it on er, by fifties. Just because I was bad in writing.

(Extract 4.9. Kagiso, on the difficulties of essay writing)

Kagiso's words "I struggled. I failed lot of essays and I had to rewrite them" reveal that though the university was attempting to teach writing to science students, the approach being followed was what Street refers to as autonomous, where literacy is seen as a decontextualized skill. Kagiso's struggle with essay writing led him to conclude that he was "bad in writing". Though Kagiso struggled with writing essays, he was able to gain a measure of competency in writing scientific reports of the experiments he performed in the laboratory as part of his practical exercises in chemistry. He said that the writing he had to do as a chemical science student was:

Three or more pages report. A structured one where you had to produce the results of the practical and discuss and draw conclusions. Which is a straightforward thing and it's not really that challenging. It was not an issue for me to write reports.

(Extract 4.10. Kagiso, on report writing)

Unlike the essay writing course that Kagiso struggled with, recording the scientific experiments through written reports was self-explanatory, experienced as "a straightforward thing". Lemke (2004) speaks of the immediacy of scientific reports which are easier to write as one would describe actions and events that are observed and experienced. Reports also have a fairly consistent structure which contains sections on materials, procedure and results. Essays, however, may be theoretical and require a student to take a stance, engage in an argument or discussion and require students to read and cite a range of secondary texts. When I asked Kagiso why he found report writing easier than writing essays he said:

in the report, you just discuss and write what happened on the practical that you did which was easy. You are writing about something that you've seen and that you understand. So, it is easy to write about something like that.

(Extract 4.11. Kagiso, reflects on the immediacy of report writing)

Kagiso's experience thus substantiates Lemke's (2004) view that there is an immediacy to report writing that makes it easier to conceptualise than an essay. Report writing is also shorter and more descriptive. Similarly, Zara recalled her experiences in a writing course that was also focused on teaching essay writing to science students and her recollection reveals some of the reasons why Kagiso found the academic writing course hard to navigate. Despite all she had achieved and

learned at school, when Zara entered university, the level of English presented her with significant language and literacy challenges once more. She said:

I went to my undergrad... Still the worst challenge ever. Cause when you're doing first year science there is a course that you have to do. I think it's 'Language for Science'. But you learn a lot of English. And you have to write a lot of essays and citing your work. So, it was so difficult. Cause I remember my first exam I got 40%. Cause even the person who was teaching it, she was speaking like deep English, and she was reading so fast. Sometimes you would sit in a class full of people cause there was more than hundred people and she would speak English. If you didn't get it, you didn't it get. But any way through consulting cause I would normally go to her all the time and then consult and then by the end of the year, *ja* (yes) I think I was ok.

(Extract 4.12. Zara, on learning to write academic essays in English)

Zara said that the "Language for Science" writing course was difficult, and she failed the first examination "my first exam I got 40%". The course was taught in a lecture setting with the lecturer "speaking like deep English and she was reading so fast" and using complex words, academic register or what Zara calls "deep English". There was no bridging with simple language or using a slower pace to enable African language speaking students time to translate while they listened to the lecturer. Since essay writing was taught in a lecture setting, Zara was agentic and reported going to the lecturer "all the time" to get explanations about tasks and get assistance with her writing since she had learned the importance of having someone who could mediate and scaffold work at primary school.

While Kagiso appreciated the immediacy of report writing, Zara reveals how important it was for her to understand and know the meaning of instructional words in assessments:

I remember my very first report was about proteins and things and I failed it because I failed to compare cause the question was 'compare and contrast' and all I did was to just say what the results were. I failed to understand the keywords. So maybe if I understood what they were really asking for then I would be able to combine the scientific terms and then the English to show that it was a comparison.

(Extract 4.13. Zara, on understanding assessment questions)

The instructional language of the question “compare and contrast” is what she did not understand, causing Zara to exclude crucial aspects from her answer. Also, comparative writing, signalled in the words “compare and contrast” in a report, has specific genre and linguistic demands that students would need to be taught at undergraduate level since they might have not learned the genre previously. Zara’s comment, “I failed to understand the keywords” demonstrates how answering assessment questions is influenced by language. In the assessment, Zara’s agency and ability to demonstrate her knowledge and competence is constrained and she said, “maybe if I understood what they were really asking for then I would be able to combine the scientific terms and then the English to show that it was a comparison”.

Challenging deficit views of African language speaking students

I draw now on Zinzi’s experience to demonstrate how students’ academic performance can be influenced by low expectations of their abilities. Unlike Zara, Lera and Kagiso who attended an English dominant HBU, Zinzi attended an isiZulu dominant HBU, saying “my parents didn’t have money to take me to the university that I wanted to go to. So, I ended up at siZululand”. Zinzi recalls her experiences at the HBU:

For me it was a major back, setback. Because coming from a model C school⁵, into a ‘Bush’ university where none of my friends went to, I was the only one there. And I remember my first lecture, the lecturer came in and told us ‘By June, there would be five of you’ that was a chemistry class and for me that kind of language was disturbing because it was not something that I was used to. At school we were treated as special, we were told that ‘you are clever’ and I knew myself as clever and capable of achieving whatever I want. So, coming into this background where I was told that I am stupid, that I am not good enough, it really messed up with my mind and I did fail chemistry cause I felt so lost. The...the education setup was so different and the attitude of the lecturers they were so different from what I’m used to and the support was not there, you know. So, if you had problems, there was no one actually to go to.

⁵ See note 1 on page 7 for an explanation of Model C schools in South Africa. They are highly resourced government schools which are now racially integrated but under apartheid catered for white learners only.

(Extract 4.14. Zinzi's undergraduate experiences)

Zinzi's experience, moving from an elite English medium high school to an isiZulu dominant university was the inverse of Lera, Zara and Kagiso's experience because they had to adapt from a multilingual African language home and school context to an English medium university with trilingual and bilingual language policies. While Lera, Zara and Kagiso were at an HBU in the Western Cape where English was a dominant language and Thabo was at an isiXhosa dominant university and English was the primary language of instruction at these universities, they could still speak in their home language socially at university. In their experience there was some continuity between the use of language at home, high school and the social use of language at university due to the presence of similar language speakers at university. But Zinzi experienced a disjunct because she had used English during the five years of high school (Grade 8 to 12) and then had to reacquaint herself with speaking isiZulu socially at university. The effect of the English medium high school's process to produce English speaking learners is revealed by the fact that Zinzi considered being at the HBU where isiZulu was a significant language socially and was part of the university identity and culture as "a major...setback"; she also described it as a "Bush" university. In South Africa, HBUs were often called 'bush universities', literally, universities for black people during apartheid were constructed on the periphery of urban areas, and in locations far from city centres surrounded by bushy vegetation and became known colloquially as "bush universities" because they were located "in the bush". They were also smaller with less facilities and the resources that were there were often of a poor quality. Socially Zinzi felt alienated since none of her friends from her elite high school attended the university, her sense of isolation is revealed in her words "I was the only one there". A chemistry lecturer she encountered had a deficit view of students, telling them "By June there would be five of you" and this she interpreted as the equivalent of being told that "I am stupid, that I am not good enough". Zinzi's early cultural and linguistic shift into an English monolingual environment at high school meant that she was not prepared for the HBU space where isiZulu dominated in social spaces and amongst students. Zinzi, having lost familiarity with speaking isiZulu, struggled to adapt and said, "I did fail chemistry cause I felt so lost" and "if you had problems, there was no one

actually to go to”. In her own words, she had to learn to adapt to the isiZulu language orientation of the university and eventually “pulled her socks up” and graduated with a BSc in Hydrology.

Multimodal literacies

Whereas previously I discussed how Kagiso and Zara had to learn to write academic essays with great difficulty during their undergraduate study in their science courses, Thabo and Lera were in courses where no essay writing and extensive academic reading was required. In Thabo’s degree in Mathematics and Lera’s degree in Geology, equations, graphs and drawings were important. Since Thabo was a mathematics major, he said “maths no, there’s nothing [no writing] there. As long as you can like learn the proofs and then [you’re fine] ... (laughing)”. Mathematics students write calculations but Thabo also said that mostly students were encouraged to look at a mathematical problem, first do the calculations mentally and not write anything down until they figured out the answer and then either write the answer only or show the calculations doing the task at quite a fast pace. Thabo said that “you can like learn the proofs” stating that even mathematics theory and calculations could be learned using memorisation. Similarly, Lera had geology as her major and her course assessment consisted of drawings, so she did not have to do any essay writing. When both these students entered the PGCE programme, essay writing became a primary form of assessment which created significant challenges for some of the students.

Section Three: Literacies demands of the PGCE programme

The overall aim of the chapter was to focus on how particular patterns of coloniality in literacies and language continue from school to HE. In Sections One and Two, I discussed the students’ literacies practices in school and in their undergraduate studies as part of critical consciousness raising about the students’ contexts and why they required academic literacies support during their PGCE. In Section Three of this chapter, I begin to focus on the academic literacies practices in teacher education and show the need for biliteracy and multilingual language in education pedagogy and training for preservice teachers. To decolonise education and enact

social justice, as researchers and practitioners, we have to acknowledge that change has to span multiple levels of education from confronting and changing the myths and universalisation of English monolingual ideology in schooling to addressing related patterns in HE. As the student protests have shown, there is a pressing need for change. Setati et al, (2002), Makalela (2015) and McKinney (2017) identify the need for change in teacher education. McKinney notes that while “we have seen the deconstruction of the notion of languages as stable, discrete, bounded entities, yet this ‘better knowledge’ has to date had little impact on language in education policy, curricula, standardized assessments and teacher education” (2017: 74). While Makalela writes that students’ multilingual identities “are typically muted by monolingual proscriptions in teacher education programmes” and are not enlisted or used as a pedagogic resource to equip them to be multilingual teachers (2015: 213). Plüddemann, Nomlomo and Jabe (2010) (hereafter Plüddemann et al) write that “In post-apartheid South Africa, teacher education has come to reflect the societal dominance of English” (210: 73), while “African languages continue in practice to be marginalised in both pre-service and in-service teacher education programmes” (Plüddemann et al, 2010: 73). Plüddemann et al (2010) state that the National Policy Framework for Teacher Education and Development in South Africa (DoE 2007b: 29) has the following parameters:

The link between language and learning must be promoted, including the use of indigenous languages. Programmes to promote language use in education will be supported, and all teachers should have the opportunity of learning an indigenous African language

(Plüddemann, Nomlomo and Jabe, 2010: 74-75).

While universities have taken up the directive to offer an African language as a communication subject, creating and designing multilingual and multimodal pedagogy and training student teachers in pedagogy that supports bi/multilingual learners has not really begun. As the students’ experiences in school and in undergraduate studies have shown, translanguaging is happening, however it is not acknowledged as a valid pedagogical tool beyond rare cases of individual lecturers taking important first steps in their teacher training courses or in their teaching content. The discussion that follows will explore challenges for African language speaking student teachers with producing essayist literacy, the demands of

monolingual English oral presentations in class and during teaching practice as well as the impact of financial stress and lack of material resources on learning.

Differences between science literacy and essayist literacy in the Humanities

As a graduate of a geology course, Lera explained that she had no training or experience in writing academic essays from her undergraduate degree in geology. She describes her literacy practices during her undergraduate years with the following words “most of my assignments in geology, it was drawings”. The switch to education in the Social Science/Humanities faculty left Lera struggling to meet the demands of essayist literacy and the academic reading that was part of the PGCE curriculum. Lera recalled:

even with the assignments, I never had, most of my assignments in geology, it was drawings. So, the essay type assignments, *yoh* (gosh), *yoh, yoh, yoh, yoh*, were killing me. So, I don't know maybe that's why even the writing was that bad but even from high school anyway, it's not something that started from here. Even from high school, I never liked essays, so I don't know. So also, the challenges, but the assignments and having to do the presentations, of your assignments cause from the [undergraduate] degree, I just only drew what I was expected to draw and then I would submit them.

(Extract 4.15. Lera reflects on orienting from Geology to Education)

In changing disciplines from geology in science to education in Social Science/ Humanities, Lera had to learn to write essays for the first time at postgraduate level. The repetition of the word “*yoh*” (Gosh) five times “*yoh, yoh, yoh, yoh, yoh*” reveals the intensity of her discomfort and how difficult learning to write essays in a new field at postgraduate level was for her. She said that she felt traumatised, “the essay type assignments.... were killing me”. Lera was aware that the reason why her “writing was that bad” was due to the shift from multimodal assessments that were visual depictions or drawings in geology to writing assignments in the PGCE programme. At the time of the interview, she had failed an essay so Lera knew that her writing did not conform to academic standards at an elite English medium university. She was also able to say that her dislike of essays came from high school and that she “never liked essays”. Similarly, Thabo, a mathematics major with very little experience of

writing essays said “Well, I had it all in my mind. Um...I have to say this. I’m not good at writing things down and doing all those mind maps. If I have it in my mind, then I have an idea of what I want to do. I don’t, *ja* (yes) I don’t write too much (laughing)”. Even during writing sessions with me, as academic literacies facilitator, Thabo seldom wrote anything down. Part of supporting his writing process was encouraging him to draft and write ideas down. Zinzi, an older student who had graduated and worked as a Hydrologist, also commented that once she started the PGCE, she noted that:

changing faculties, from Science to Social Science, it was difficult for me because I knew that the writing styles are not the same. I am used to writing scientific reports. On the essays they gave us I could see I can’t apply that same style of writing for the essay.

(Extract 4.16. Zinzi, on changing from Science to Social Science)

Zinzi’s words demonstrate that even though she had some experience with writing scientific reports, she could not really bring much of that knowledge to writing academic essays in education. Zinzi realised that “the writing styles are not the same” and that she knew that she “can’t apply the same style of writing [reports] for the essay”. Understanding the extent of the shifts in academic literacies such as from multimodal drawing in Lera’s example and calculations and symbols in Thabo’s example to essay writing should play a role in designing the academic literacies support on offer. I knew that I had to include basic practices and that I had to include explanations for the practices I was teaching students. What also became clear was how fear and anxiety around speaking and writing English had built up over time (Comber and Kamler 2004: 301). For example, in Zara’s case, it was developed through witnessing corporal punishment of other learners while she was at school. But part of critical consciousness raising was acknowledging and understanding the students’ efforts to learn and their resilience and agency in finding ways to manage challenges resulting from institutional policy.

Negotiating practice teaching experiences

When Zara had to speak standard English at an elite English medium school where she was placed for one of her preservice teaching practice periods, this created substantial levels of anxiety for her:

I also had the agency to make sure that I don't make any mistakes. Like I, even before saying something to the learners I would practice it in my mind before saying it just to see which words are mixing up or what am I going to say wrong, what will I do wrong so as to lose the learners, it was just, at first it used to be so uncomfortable because what if I say this word wrong and then the learners laugh at me? What if I don't speak good English and then they start looking at me and questioning my whole teacher career?

(Extract 4.17. Zara on the challenge of practice teaching in English)

Zara's words "What if I don't speak good English and then they start looking at me and questioning my whole teacher career?" expresses the ideological position where a person's English proficiency can be used as a marker to judge their competence as a student teacher. Zara's fear of not being able to speak 'good English' at the elite English medium school, reveals the prevalent societal orientation to Anglonormativity, a term coined and defined by McKinney (2017: 80) as "the expectation that people will be and should be proficient in English, and are deficient, even deviant, if they are not". Zara was particularly worried about making mistakes with word order "mixing it up" and with pronunciation and saying a "word wrong". Similarly, during Kagiso's teaching practice at an English medium private school, he was told, by his university supervisor, that he speaks too slowly and that he takes too long to explain the lesson topic. He was also told by the supervisor that one of his "problems is the language". Later Kagiso says:

it is a problem. More especially when you're nervous. Me when I'm nervous, I can't think straight, so ...you know in order for me to speak English ...I have to think before...that's what happens. I have to think what I have to say so...when I'm nervous, it takes time for me to think.

(Extract 4.18. Kagiso on practice teaching in English)

Kagiso's experience of feeling anxiety having to speak standard English in front of learners during his first teaching practice at a private school was similar to Zara's experience. Both Zara and Kagiso experienced anxiety around being perceived as

lacking the necessary linguistic and social capital needed to be a successful science teacher in schools where a high level of spoken and written standard English was valued.

In contrast, when Kagiso was in his second teaching practice placement (TP2), he was at a well-resourced school in a township that specialised in science and technology. His internalised Anglonormativity (McKinney 2017) and the experiences he had of having to learn English for the first time at university and the difficulty he experienced meant that he preferred to speak in English to the isiXhosa speaking learners in Grades 10, 11 and 12 and orient them to English while they were still at school. He explains his reasoning:

I told myself, let me just teach in English even though the students were not, didn't like that, they were complaining about that 'Why am I teaching in English?' But I told them that 'I'm helping you also to learn to speak in English and I am also helping myself so it's a two-way thing. It's not about only, it's about me and you getting to know how to communicate in English, and I find it very nice, and *ja* (yes), but in some lessons, I was teaching in English, [but]most specially the lower grades the natural science, the grade 8 and 9 I was teaching in Xhosa, *ja* (yes), I was teaching in Xhosa, but sometimes, just because they couldn't even understand the English.

(Extract 4.19. Kagiso on teaching in English instead of isiXhosa)

Since Kagiso was teaching in Khayelitsha where he went to school and grew up, his own struggle with having to learn to speak in English at university led him to decide to speak to the learners in English, saying to them, "it's about me and you getting to know how to communicate in English". His personal experience of struggling and nearly failing in his first year at university as well as the fact that he struggled to teach in English during his first teaching practice at a private English medium school led him to decide to teach in English to isiXhosa speaking learners who were in Grades 10 to 12. He states that he had to teach the isiXhosa speaking learners in Grades 8 and 9 in isiXhosa because they were not familiar with learning in English only, saying "I was teaching in Xhosa, but sometimes, just because they [Grade 8 and 9 isiXhosa speaking learners] couldn't even understand the English. "

Even Thabo, a confident mathematics student, doubts his English language resources at the elite English medium university. Thabo said, "I think that it's one of

the things this university made me realise, that I thought my English was good but maybe it's not" (laughter). He explained further:

that was a challenge for me. *Yoh* (Gosh), coming from a background where I didn't speak too much English, and now here. *Yep* (yes), *ja* (yes) *ja ja* and now aye, where do I start? Aye, ok (chuckling)...*ja ja ja ja* (laughter), it was a challenge for me, it was a challenge for me. speaking English for 45 hours, 45 mins if it's a double period English straight, no Xhosa, aye, *ja ja* but, *ja* well, I try, I try....

(Extract 4.20. Thabo on learning at an elite English medium university)

Thabo spoke of being at an English dominant university and environment as "a challenge" academically and his words "where do I start?" could be said to convey his feelings of being overwhelmed when he first arrived and had to adapt to "English straight, no Xhosa".

Conclusion

The aim of sharing students' early schooling and language and literacy histories in this chapter was to trace the impact of the continuing coloniality in their schooling, and the resulting challenges they faced at school as well as their internalisation of deficit perspectives of multilingual speakers to the extent where in Kagiso's case it led to self-blame and a decision to forgo translanguaging and teach in English only at an isiXhosa dominant school. Significant among these was their experience in having English, their additional language, as official language of instruction throughout their education. Another was navigating the changing language infrastructure or environments when they changed schools or as they moved from school to university. Ngugi wa Thiongo (1986, cited in Christie and McKinney 2017), notes that a significant effect of cultural imperialism through imposing colonial language ideology (amongst others) was "to annihilate a people's belief in their names, in their languages, in their environment, in their heritage of struggle, in their unity, in their capacities and ultimately in themselves" (2017: 7). The aim of critical consciousness raising about the students and their histories and context, is to delink from coloniality and the use of English as the only language of education because this results in making students view past educational experiences in Ngugi's (1986)

words as a “wasteland of non-achievement and it makes them want to distance themselves from that wasteland. It makes them want to identify with that which is furthest removed from themselves; for instance, with other people’s languages rather than their own” (Christie and McKinney 2017: 7). Despite their challenges, including having to learn to speak English fluently and continuously and learn in English at university, all five students completed their undergraduate education. Their early schooling and language and literacy history shows their resilience, their determination and the obstacles they faced. But these obstacles and challenges around language and learning are ones that the majority of standard English speakers from well-resourced homes and schools never encounter as the language of instruction remains constant from home to university leading to a continuous building of learning and language resources for them.

When it comes to understanding the language policy challenges, a monolingual framework that places African language mother tongue/ home language against English is not productive. African language speaking teachers are placed in the difficult position of adhering to the school’s policy of using English as the language of instruction and using the learners’ African home language to support learning and understanding school content in English. Even though all five student teacher participants experienced three years of learning in their African home language (Grades 1 to 3), followed by a change to English language of instruction (in Grade 4/5), there was considerable variation in language use at their schools. Most students had oral classroom environments that were bilingual and where translanguaging was a daily practice while their written work and assessments were in English. Wigglesworth writes, that if it was officially recognised as a legitimate pedagogic practice in educational contexts, translanguaging “could contribute to both teachers and students valuing Indigenous languages” and maintain the “linguistics knowledge they [learners] bring to school for learning” (2020: 96).

The data and the students’ experiences discussed above shows that at university, though the teaching was primarily in English, socially and in the university corridors at HBU’s, a multilingual environment exists that includes English while students also

had access to the support of peers who spoke their language. However, at elite English medium universities such as my research site, the learning and social environment is overwhelmingly English leading to stressful experiences when students need to develop their oral and written English to a significant degree whilst negotiating learning taking place at the pace of English monolingual speakers. In the next chapter, Chapter 5 I focus on de-mystifying the academic literacies practices of the PGCE programme's Education core course for the five students in an attempt to balance the disparate learning experiences African language speakers have in relation to English speakers.

Chapter 5: Supporting academic literacies across a Postgraduate Certificate in Education (PGCE) programme

Introduction

In Chapter 4, I used the lens of decoloniality to discuss the injustices experienced by African language speakers in an educational system premised on the norms of monolingual English speakers. Chapter 5 answers the second subsidiary research question “How can one support African language speaking students with degrees in science in learning the academic and multimodal practices required in teacher education?”. In this chapter, I describe my academic and multiliteracies intervention and goal which was to give students access to the dominant literacies and scaffold this access using a social practices approach to academic literacies. Another aspect of the intervention was to focus on transformation around the use of student language resources in teacher education. The intervention was needed because academic literacies learning is not just important for the student teachers and for the completion of academic programmes like the PGCE but also important for the many learners they will teach. Writing on the literacies of new teachers, Zipin and Brennan (2006: 340) explain that “New teachers with less powerful literacy capitals” tend to work in low resourced schools and communities and that often “cultural gaps” are reproduced and “amplified by young teachers who themselves struggling with academic literacies, reinforce a vicious cycle in which schools reproduce power inequalities”. To delink from this cycle, I draw on Delpit’s (2006) theoretical position that students who are at risk of failing and are from under resourced communities require access to the literacies valued at educational institutions, and to transformed practice. Students at risk of failing are often institutionally described as underprepared but Fataar (2018) cites Dhunpath and Vithal (2012: 2) who argue that we have to examine “both the question of underprepared students and underprepared universities”. My intervention thus played a bridging role between student need for academic literacies support and limited university provision with the

aim of encouraging the students as well as the institution to recognise the value of African language resources in learning.

In this chapter, I use two aspects of the Pedagogy of Multiliteracies, Situated Practice and Overt Instruction. I situated the academic literacies intervention within the literacies demands of the PGCE programme focussing on the assessments of the Education core course. The Overt Instruction took the form of what Gibbons (2009) calls integrated scaffolding which, as explained and defined in the theoretical framework in Chapter 2, consists of two types of scaffolding, namely designed-in scaffolding and interactional/contingent scaffolding. As stated in Chapter 2, Gibbons (2009) describes scaffolding as “the temporary, future oriented, targeted help that supports learners in developing new knowledge, skills and understandings that are transferable to new contexts” (Gibbons 2009: 153). Gibbons (2009) defines designed-in scaffolding as “planned support – those activities consciously selected to scaffold learning” before any teaching occurs (153). Interactional or contingent scaffolding is unplanned and takes place in the moment during teacher and student interaction or while students are interacting (Gibbons, 2009: 154). I draw data from three different genres: an academic essay, a PowerPoint presentation and a lesson plan to demonstrate how I used an integrated approach to scaffolding to support the students learning these genres. While the challenges in negotiating essayist literacy are well-described (Lillis 2001; Ivanič 1998; Street 2003; van Pletzen 2006; Thesen 2006; Paxton 2007; Kapp and Bangeni 2005), the demands of professional genres for teaching are less researched, especially in multilingual contexts dealing with a legacy of colonial education. My analysis carefully traces the production of one student’s texts, Lera, as she had the least experience with academic writing and was also committed to learning academic literacies practices. Her results over the year show substantial improvement from failing assessments early on to achieving comfortable passes by the end of the year thus making her journey a significant case to understand and learn from.

This chapter is divided into two parts. Part One starts with an analysis of an extract of Lera’s History of Education essay, the first essay of the first module in the Education core course and serves as an example of unsupported student writing. I then focus on how I scaffolded, the Classroom Discourse essay to support Lera’s

learning of academic literacies practices using “designed-in- scaffolding” (Gibbons 2009). In Part Two, I focus on supporting Lera with two professional genres, a lesson plan and PowerPoint presentation and the support for these genres take the form of contingent/ interactional scaffolding because the support was unplanned and occurred in response to Lera’s request for assistance.

Part One: Mediating the Classroom Discourse essay assignment

I start the discussion on the designed-in scaffolding I used to support the Classroom Discourse essay by focussing on Lera’s first assignment, the History of Education essay and what contributed to this essay failing the assessment as a way of surfacing the challenges students face with conforming to essayist literacy. At the time the students wrote and submitted this essay, I had not met any of them yet and I use extracts from Lera’s essay and analyse interview data where she reflected back on her experience of writing the History of Education essay. Like Ivanič (2004), I draw on Fairclough’s Critical Discourse Analysis (CDA) framework (1989 and 1992) or “Three-dimensional conception of discourse” where he argues that social practice, discursive practice and text are mutually constitutive and linked. Fairclough’s framework allows me to suggest that there were two primary aspects in 2016 influencing the writing of Lera’s History of Education essay. Firstly, Lera did not know the necessary academic literacies practices needed for negotiating the PGCE programme successfully. Lera’s literacy history analysed in Chapter 4 revealed that her school learning consisted mainly of rote learning and reproducing textbook information and that she produced minimal academic writing during her undergraduate study in geology, since her assessments were mostly in the form of diagrams. Secondly, financial precarity at the start of the academic year was a reality for students like Lera who depended on university funding to study and for accommodation. Frequently, student housing and funding are only finalised when students arrive on campus and academic classes would have started while students wait for institutional decisions around housing and funding. At the time that the essay was due, Lera had travelled from Gauteng and was living temporarily with relatives with the understanding that it would be for a very short period until she secured institutional funding and found stable accommodation.

Lera's comments on her failed or unsuccessful writing during the first term of her PGCE revealed how the precarity of her living conditions further undermined her ability to meet the academic literacies demands of the course. She said of this time, "When I still didn't have a place to stay, *ha, ja* (yes). It was a disaster. The first two assignments were a disaster. I'm sure I have 40 (%) and 50 (%) those were, were my lowest mark" (Lera interview, PGCE experience). Lera said of the History of Education essay, "I didn't understand what I was doing. I was just doing. Cause I had to do an assignment" (Lera interview, PGCE experience). Lera was having to navigate several difficult experiences at the same time, such as securing funding for her studies, temporarily living with relatives in a place that was unfamiliar, under pressure to find a place to live for the rest of the year, navigating a new university, studying in a new field and learning to write academic essays. Lera's attention and time was split between the anxiety of not having funding and a stable place to live and having to read and write academic texts. She said of writing an essay during this pressured time without any academic literacies support, "I didn't understand what I was doing". The anxiety of not having a place to live is partly the reason why she refers to the unsuccessful essay as a "disaster", a calamity that can cause great loss and that is difficult to recover from. The unsuccessful essay also put pressure on her to improve her results so that she would pass the PGCE programme at the end of the year. Next, I analyse an extract from Lera's History of Education essay as well as marker feedback, to provide an example of unsupported student writing. Lera's essay was a response to the following essay question from the History of Education module of the Education core-course "Why is the understanding of our education history important for teaching and learning today?" In Figure 5.1 below, Lera's words and that of the lecturer who assessed Lera's writing are retyped but not changed in any way.

Essay question: "Why is the understanding of our education history important for teaching and learning today?"

Extract from Lera's failed first essay	Lecturer's comment at the end of the essay
<p>Educational history refers to the apartheid and post-apartheid events that took place, considering how and why the learning and teaching conducted or operated in the policy that it did. Other reason had been that the churches or missionaries were the first to start an educational programme so majority of African black students went to school originated by missionaries. The National Party government in <u>1948</u> gave Afrikaans to be taught at all high schools the students we expected to be fluent in both English and Afrikaans.</p>	<p>"This is a weak essay. The 'history' is muddled and you needed to indicate how the past influences the present, <u>not simply give a version of the history</u>' – 43%</p> <p>"No this was <u>1976</u>"</p> <p>"References incomplete"</p>

Figure 5.1: Lera's assessed History of Education essay

An analysis of the extract of Lera's History of Education essay (Figure 5.1) shown above reveals a new idea in each sentence which is not directly related to the previous sentence and does not provide the reader with the awareness that an argument is being constructed. Lera makes a general statement that "Educational history refers to the apartheid and post-apartheid events that took place, considering how and why the learning and teaching conducted or operated in the policy that it did." Then she follows the previous sentence with a historical reference to the first schools that were created by missionaries writing "Other reason had been that the churches or missionaries were the first to start an educational programme so majority of African black students went to school originated by missionaries". She then follows this sentence by referring to a different historical period, also producing the incorrect date for a well-documented fact when she wrote, "The National Party government in 1948 gave Afrikaans to be taught at all high schools ...". One of the few feedback comments on Lera's essay from the lecturer who assessed her work was "No this was 1976". As the extract reveals, Lera tries to piece together the different historical periods but the essay is written from a descriptive rather than analytical point of view. Viewed from a social practices approach to academic literacies and using the CDA framework (Fairclough, 1989 and 1992), it is not

enough to merely point out that Lera is not expressing a connection between missionary education, apartheid nationalist education and current education in South Africa. Rather, from an academic literacies approach, it is important to examine what contributed to the production of an essay that was given a mark of 43%. Her essay mark, well below the 50% pass mark required at university signalled that she was not meeting University criteria for academic writing. Since Lera received 43% for the essay, she could not re-write the essay because a student required a mark between 45 and 49 percent to re-submit an essay. Lera's failed essay provides some insight into the need for academic literacies support for 'at risk' and under-resourced African language speaking PGCE students.

The Classroom Discourse essay as an example of supported disciplinary writing in Education

I decided to use Gibbons' (2009) designed-in scaffolding to support the students with learning the academic literacies practices they needed to write successful essays. This allowed me to take a sequential approach that outlined the basic practices that I believed would benefit those students (like Lera) without any previous experience of academic reading and writing. I chose the Classroom Discourse essay, the assessment at the end of the "Language and literacy development in multilingual societies" module of the Education core course, as a data source because it is an example of designed-in scaffolding and demonstrates the process and practices I used to support the students development of academic reading and writing. The Classroom Discourse essay was the third assessment of the Education core course, preceded by the History of Education essay and a class test. The Classroom Discourse essay assignment task consisted of two parts: in Part One of the assignment students had to audio record themselves teaching for 10 minutes during their first teaching practice (or TP1). Then they had to transcribe the recording, describe and analyse their classroom talk by referring to aspects such as the classroom context; the patterns of classroom interaction; the percentages of teacher talk and learner talk; the types and functions of the questions asked; how the learners participated; and the types of answers learners provided. Part Two of the essay focused on literacy development and the students had to provide two

examples of how they integrated or could integrate reading and writing activities into one of their lessons. Students also had to describe how they would scaffold these reading and writing activities in order to improve learning. Part Two of the essay assignment question was challenging because the students had to adapt and create reading and writing activities in subjects like science, mathematics and geography and this type of pedagogy was not part of their own school experience, nor part of their undergraduate experience.

Using designed-in scaffolding for the Classroom Discourse essay

I briefly summarise my academic literacies approach and process for the Classroom Discourse essay before I discuss each aspect and step of the process in greater detail. I started the scaffolding for the Classroom Discourse essay by designing a preparatory workshop which included a task analysis of the essay question and an activity to facilitate the students' academic reading practices. Next, we worked in one-to-one academic literacies sessions where I guided the students with analysing multiple secondary texts, including the transcript they created of the 10-minute recording of their TP1 lesson. The ideas generated during these sessions produced data that allowed the students to write their draft essays.

Classroom Discourse Essay Academic Literacies (AcLits) scaffolding

Date	Activity	Content	Attended	Time
Tuesday, 22 March 2016	Classroom Discourse essay Preparatory workshop	Introductory discussion and student activity; task analysis of essay assignment question; academic reading activity; linking academic readings to essay task/question	Lera, Zara, Thabo, Zinzi and Kagiso	60 mins (1hr)
18 May – 3 June	One-to-one AcLits sessions	Transcript analysis and analysing secondary readings	Lera and Kagiso (60 mins each), Thabo (45 mins), Zinzi (45 mins) and Zara (45 mins)	255mins or (4hrs, 25 mins)
6 June – 9 June	One-to-one AcLits sessions	First essay draft sessions	Lera (60 mins) Kagiso (60 mins), Zara (45 mins), Thabo (45 mins), and Zinzi (45 mins)	255mins or (4hrs 25 mins)
10 June	One-to-one AcLits sessions	Second essay draft sessions	Lera (45 mins) and Kagiso (45 mins)	90 mins (1hr 30 mins)

Figure 5.2: Scaffolding the academic literacies of the Classroom Discourse essay

Step 1: The Classroom Discourse essay preparatory workshop

The 60-minute Classroom Discourse essay preparatory workshop took place before TP 1 on Tuesday, 22 March 2016 and started with a five-minute introductory discussion between pairs of students on what is considered a 'good learner'. This paired discussion was followed by whole group feedback; next there was a segment on task analysis led by me, a reading exercise, student feedback from the reading exercise, question and answer time and my last suggestions on recording their lessons for the assignment. I included task analysis as part of the preparatory process because some students were new to essay writing and they had to learn to use the question to guide the analysis of their readings and the written response they would produce in their essay. The workshop lasted 60 minutes and could not run any longer due to the students' timetable constraints. The image below, Figure 5.3, is a

composite of the slides dealing with the essay question analysis (See Appendix F for a larger version of Figure 5.3.)

Question analysis

Understanding the question is key to providing an answer

A question has three components:

subject matter **Instructions** **constraints**

- “This assignment is a two-part essay. Part 1 focuses on your use of **talk in the classroom**. Part two focuses on **literacy development**. Please use the headings Part 1 and Part 2 in your essay”

Slide 1

Question analysis: Part 1

- The context of the **recording** (which part of the lesson, the grade, the topic etc.)
- Patterns of **classroom interaction** (**Initiation-response feedback**, the grade, the topic etc.)
- % of teacher talk, % of learner talk
- **Types and functions of the questions you ask**
- Participation of learners, types of answers
- The nature of your feedback
- Any significant pauses, silences
- Any other kind of significant features of your talk, e.g. tone, vocabulary etc.

Slide 2

Question analysis: Part 2

- “Provide **two concrete examples** of how you integrated or could integrate **reading and writing activities into the lesson** you analysed and how you would scaffold such activities so as to purposefully develop learner’s reading and writing competence and improve learning”

Slide 3

Question analysis: Assessment criteria

- Your language and literacy assignment will be marked on the basis of:
- Understanding of how **classroom talk** works to facilitate/ not facilitate learning (50%)
- Description of **two, subject-specific reading and writing tasks** (10%)
- Awareness of how reading and writing can be used to **scaffold learning in your subject area** (30%)
- Clarity, coherence and focus (10%)

Slide 4

Figure 5.3: Preparatory workshop: Classroom Discourse essay task analysis (See Appendix F for a larger version of Figure 5.3.)

In Figure 5.3, Slide 1, I identified the parts of the question (typed in green) for the students and the functions of specific words in the question. Slide 2 showed students which phrases guided the answers to Part 1 of the essay question. Slide 3 focussed on Part 2 of the essay question which required students to create reading and writing tasks in their specific content area. On Slide 4 I listed and discussed the assessment

criteria explaining how the assessment criteria could assist students with answering the essay question. Often students are given the assessment rubric by the lecturer as a means of being transparent, but they are seldom taken through the process of reading and understanding the rubric and are seldom shown how they could use the information on the rubric to shape their writing and their essay. For example, on Slide 4, point 2, I typed words “classroom talk 50%” in red to signal that the student’s analysis of the classroom talk or classroom discourse should make up half the content of Part 1 of the assignment. The focus on the rubric allowed me to demonstrate to students how the percentage indicated which parts of the answer was arguably considered more significant by the lecturer. This task/question analysis segment was followed by a reading exercise.

Scaffolding academic reading

Baker, Bangeni, Burke, and Humna (2019), state that their analysis of the literature on reading in higher education “points to a gap in case studies of students’ situated reading practices and critical engagements with the privileged and expected ways of reading within disciplines” (52). They state further that the focus in academic literacies is mainly on writing while reading is not prioritised yet reading is crucial to “widening access to the disciplines” (Baker et al. 2019: 153). The aim of the reading exercise was to allow students to work with their course readers. I wanted students to physically touch and page through their course readers, whilst I demonstrated basic practices such as underlining (in pencil) important ideas and definitions and what to annotate in the margins of the articles. Teaching analytic reading to postgraduate students might seem basic or even unnecessary however, two students (Lera and Kagiso) had failed their first essay (History of Education), and this was an indication that there were gaps in the students’ learning that “the usual academic cycles of presentation and discussion in lectures and tutorials, [and] reading articles and writing assignments at home” was not working for certain students (Rose, Chivizhe, McKnight and Smith, 2003: 42). Lera articulates both the isolation of working at home as well as the difficulty of reading academic articles when you have not read in this way before and when English is your additional language:

Lera: I think it was that thing of working alone. Not having people to discuss with.

Soraya: *Ja* (Yes).

Lera: So, I didn't understand what I was doing. *Yu wiz*, there was a lot of reading to do. You understand this part, when you get to the bottom part, you forgot what the top part is saying. I'm like 'oh no this isn't happening'. I'd go back to the top part, every time when I get to the bottom, I've forgotten, I'm like ah, I'm going to the next page.

(Extract 5.1. Lera interview, PGCE experience)

Lera's comments on working alone and not being able to follow complex academic arguments reveal how an individualised model of learning may not be effective for all students. Her identification of "Not having people to discuss with" as part of her problem with the reading and essay writing process, highlights the importance of discussion and social interaction in academic learning. Hewlett (1996: 96) cites Mabizela (1994) who notes a student saying in response to an essay prompt which asks them to 'Discuss...' that "one cannot discuss (or 'xoxo') ...alone". Similarly, Gibbons (2009:16) notes that we can all remember experiences where we "have been helped to find solutions or understand difficult concepts by talking with others. We learn and develop new ideas through this collaborative talk". Despite the absence of "collaborative talk", Lera's decision "I'm going to the next page" shows both resignation at her situation and her determination to continue and get to the end of the reading though she was struggling to understand and interpret the academic discourse. Though Lera performed reading one of the prescribed articles, the practice of academic reading only becomes meaningful for learning and writing when "learners can comprehend and interpret author's meanings" (Rose, Chivizhe, McKnight and Smith, 2003: 42). Rose et al (2003) state that students find reading academic texts difficult because "the subject matter, including terms used in the academic field is likely to be very unfamiliar" and even when students "can read a text fluently, they cannot necessarily begin to understand, let alone interpret or critique, the ideas expressed in it" (Rose et al 2003: 43). Lera's experience shows why scaffolding reading practices and having discussions around academic reading to generate "collaborative talk" before essay writing is important.

Preparing for academic reading

Rose et al (2003) argue that “preparing for reading must work on two levels: the first is to orient learners to the field of the text before reading and the second is to interpret the information expressed in the wording of each sentence” (43). I used the slides below to start a discussion on the dynamics of classroom talk to prepare the students for the reading exercise. In the slide on the left, I used a cartoon from Gibbons (2009: 131) showing how a learner’s talk is repeatedly corrected by the teacher until the learner is discouraged from speaking. In the slide on the right, I quote from the 2016 PGCE Programme Information Handbook to connect the aims of ‘The language and literacy development in multilingual societies’ module with the Classroom Discourse essay task and with the secondary readings.

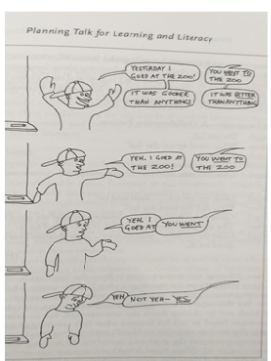
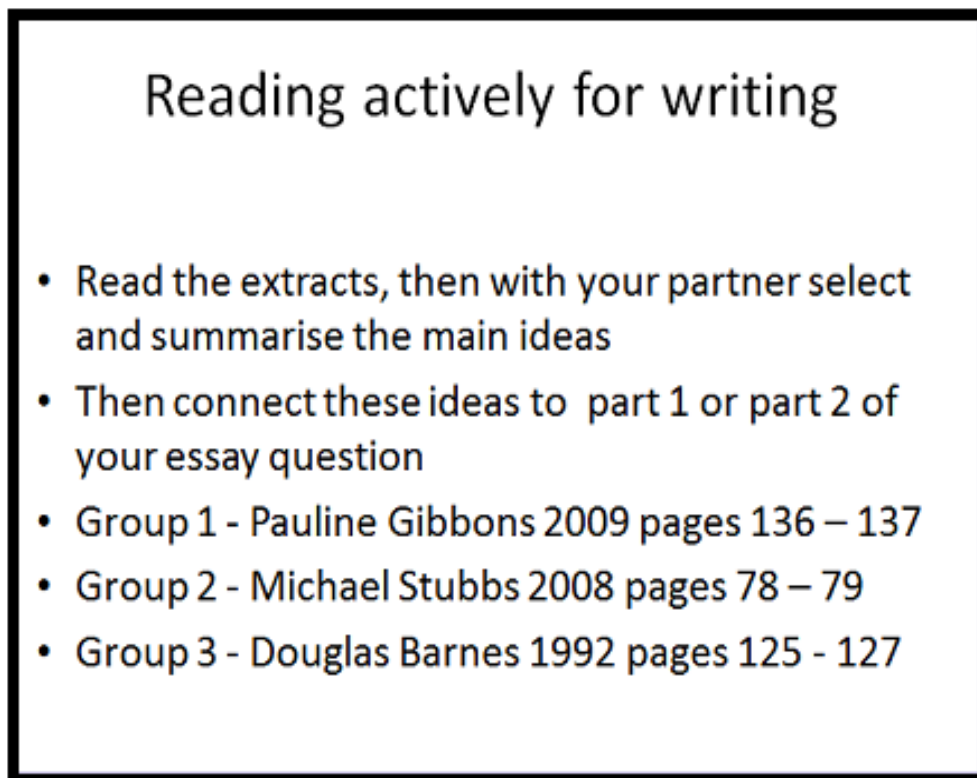
<p>What is the effect of traditional classroom talk – pg. 131 Gibbons (2009)?</p> 	<p>‘The language and literacy development in multilingual societies’ module</p> <p>The aim of this module is to address:</p> <ul style="list-style-type: none">• “classroom talk and how to use talk for learning in a classroom” where learners have a variety of languages and are multilingual• “the particular challenges of English as language of learning and teaching for English additional language learners is addressed throughout the module” <p>(PGCE Programme information handbook, 2016: 14)</p>
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Figure 5.4: Scaffolding academic reading, introductory discussion (See Appendix G for a larger version of Gibbons (2009: 131))

The reading activity in the Classroom Discourse preparatory workshop was based on Gibbons’ (2009: 146-147) Jigsaw Groups exercise where primary school students are placed in groups to research different topics related to solving the same task. Later the students form new groups consisting of one person from each of the previous groups resulting in each group member having ‘expert’ information which the other members need to know to complete the task. Though Gibbons’ activity was for school children, it provided me with an accessible pedagogic exercise that I could adapt for HE students. I adapted Gibbons’ (2009) Jigsaw Groups exercise so that

the 10 students attending the workshop, were divided into two groups of three and one group of four students. Next, each group was given an extract from one of the three prescribed readings for the essay which they had to read and discuss. Though I would have liked to reconstitute the groups as Gibbons did, unfortunately, I did not have enough time to do this. Thus, after reading the extracts and the discussion, a group representative would summarise and share what the group had discussed and learned in a feedback session.



Reading actively for writing

- Read the extracts, then with your partner select and summarise the main ideas
- Then connect these ideas to part 1 or part 2 of your essay question
- Group 1 - Pauline Gibbons 2009 pages 136 – 137
- Group 2 - Michael Stubbs 2008 pages 78 – 79
- Group 3 - Douglas Barnes 1992 pages 125 - 127

Figure 5.5: Adapted Gibbons (2009) Jigsaw Exercise

Figure 5.5. above shows the instructions to each of the student groups and lists the allocated secondary readings. The passages from the secondary texts I chose featured key terms like “classroom discourse” (Gibbons, 2009), “exploratory talk” (Barnes, 1992) and “language deficit” (Stubbs, 2008). I wanted to demonstrate a way of ‘taking’ or learning theoretical concepts or terms from a reading source to both introduce students to the concepts and to help them realise the role reading played in preparation for writing.

During the reading task, I visited the groups to answer questions and offer assistance. Once the groups had read and completed the task, I took feedback from

each group and wrote the concepts and brief definitions/ explanations on the whiteboard. Next, I linked the concepts to the assignment question. Then I discussed the structure of the essay showing how the concepts could be used in the essay.

The facilitator's critical reflections on the essay preparatory workshop

I start my reflections on the efficacy of the discussion exercise and my use of the cartoon (left in Figure 5.4) from Gibbons' (2009). My fieldnotes reveal that the student discussions around the cartoon were broad and sometimes not directly related to the essay. My aim was to draw on students' previous experiences at school and get the students talking to each other. While this was achieved, I could first have explained the terms "classroom discourse" and then asked the students to discuss why they thought speaking and sharing ideas were important to learning. I could also have asked students to think about experiences when they or another student learned something through a discussion. Both of these ideas would have encouraged students to think of the role of discussion and speaking in their own learning and in learning in general. Perhaps as a next stage, I could have asked students to critique the interaction between the characters in the cartoon.

Next, I comment on the efficacy of the reading task. The design of the task seemed to have worked in that the students read the extracts and discussed the extracts with peers. I would have preferred to give the students more time to read and discuss the extracts with each other. Though the students reported back to me and I wrote the definitions of terms like "classroom discourse" on the board, I had to make the connections between the terms in the readings and the essay question as we had run out of time. The reading exercise also revealed that students were reading and processing the information at different speeds. Since this workshop was with a group of ten students, five African language speaking student participants, and five English first language students, I found that the five English first language students read faster, answered questions faster and increased the pace of the workshop. In the workshop, I was torn between moving at the pace of the English first language students or slowing down the interaction to give the African language speaking students time to respond. Though all teachers face this tension because all classrooms have learners working in different ways, teachers in multilingual

classrooms or with multilingual learners in the class need to remain aware of the fact that multilingual learners may need more time to read, interpret and understand content in a less familiar language. I decided to slow down my explanations and repeat aspects that were important so that all the students had an opportunity to grasp what I was saying.

My next step in supporting the students' academic literacies' development for the Classroom Discourse essay was to set up one-to-one or individual academic literacies sessions with the students after they returned from their first teaching practice (TP1). I also noted in my fieldnotes that as a result of a shortage of time I did not cover Part 2 of the essay question which asked students to integrate language and literacy activities into their lessons and scaffold these literacy activities for learners. I knew that I would have individual or one-to one academic literacies sessions with the students so I thought that I could cover Part 2 of the essay question during these sessions. This omission would become significant during both the drafting stage of the Classroom Discourse essay and in my analysis of Lera's lesson plans later in this chapter.

Step 2: The first one-to-one academic literacies sessions on the Classroom Discourse essay

After the essay preparatory workshop described above, the one-to-one academic literacies sessions were the next step in supporting the Classroom Discourse essay. Wilson, Collins, Couchman and Li (2011: 139) cite Weissberg's (2006, p. 261) view that "tutor feedback delivered in a one-to-one setting through scaffolded dialogue tailored to a particular student writer constitutes an unparalleled opportunity to provide targeted, individualized instruction". These one-to-one sessions happened after the students returned from TP1 with the 10-minute recording of a lesson they taught during teaching practice. Each student had an average of two academic literacies sessions. The first session consisted of transcript analysis and entering the data from the transcript onto a draft essay writing frame. The second academic literacies session consisted of reviewing and discussing the first draft of each students' Classroom Discourse essay. In the first one-to-one academic literacies sessions, the student and I each had a copy of their lesson transcript, we read,

analysed and then discussed the student's transcript after which we linked the ideas in the transcript to the essay question. The average time taken for an academic literacies session was between 45 minutes (Zara, Zinzi and Thabo) and 60 minutes (Lera and Kagiso). The longer 60-minute sessions and the additional sessions show that Lera and Kagiso required more support. Figure 5.6 below shows Lera and I in our first one-to-one academic literacies session on the Classroom Discourse essay interacting and referring to multiple texts such as the Lera's transcript, the transcript analysis framework, and the academic readings.



Figure 5.6: Lera and Soraya's academic literacies session on the Classroom Discourse essay

The one-to-one academic literacies sessions were practical sessions that allowed me to show students how to number the speaking turns in their transcripts, allowed the students to describe their practice teaching contexts and which aspects of the lesson their transcript covered. It provided emic or insider (student) views on the texts where students could explain why they made specific textual choices. As Lillis (2008) argues "Emic perspectives are central to understanding what is relevant to participants and thus core to understanding what is significant from the very large and empirically unwieldy notion of "context." (Lillis, 2008: 360). The academic literacies sessions also gave students the space to ask specific questions and clarify theoretical terms. During the first one-to-one academic literacies session for example, Lera said, "I am still struggling a bit to differentiate between everyday talk and scientific language". Her request for clarification allowed me to revise the

concepts presented in the lectures and refer to readings we had discussed previously in the Classroom Discourse essay preparatory workshop, where we discussed Gibbons' (2009) use of 'everyday talk' and Barnes' (1992) discussion of exploratory and presentational talk.

Creating a transcript analysis framework to manage multiple texts and multiple students'

I created a transcript analysis framework in the form of a table to scaffold and guide the students through the close analysis of their transcripts. After I worked with Zara and then Zinzi on the analysis of their transcripts, I realised that Zara's academic literacies session differed from Zinzi's because each student's teaching subject, transcript content and writing differed. These differences also meant that I lost track of important aspects of the question that students had to include in their analysis and writing. At the start of the one-to-one sessions with Lera, Kagiso and Thabo, I provided each student with a copy of the transcript analysis framework and explained to the students why I created it and how we would use the transcript analysis framework to write down salient points when we closely analysed each of their transcripts. See Figure 5.7 below for a section of the transcript analysis framework (See Appendix H for a larger version)

	Patterns of classroom interaction	Source	Analyse	Interpret, evaluate and	Example from transcript
1.	Percentage of teacher talk		Count the turns where the teacher speaks Determine the length/ number of words		Teacher speaks/turns: No of words per turn:
1	Percentage of learner talk		Count the turns the learner has Determine the length/ number of words		No of words total Learner speaks/turns: No of words per turn: No of words total:
2.	Teacher questions		Count the questions		
3.	Learner questions		Count the questions	2	
4.	Types of teacher questions: Echoic: Comprehension checks Clarification requests Confirmation requests	Hendricks based on Long and Sato's (1983) framework			

Figure 5.7: A section of the transcript analysis framework (See Appendix H for a larger version)

The transcript analysis framework allowed me to help the students analyse their transcripts in a systematic way and the students made rough notes on the framework which they could refer to when they wrote their draft essays. I could have used the essay question in its text format, but the framework allowed me to show the students how to link their transcript analysis and course readings to answering or addressing relevant parts of the assignment question. For example, the words “Count the turns where the teachers speaks” in area 1 on Figure 5.7. (The transcript analysis framework), allowed the students to calculate the percentage of teacher talk and then write the number and percentage on the framework. In the area numbered 2 in Figure 5.7. of the transcript analysis framework, the students were instructed to count the number of teacher and learner questions and are provided with examples of the types of questions teachers frequently ask learners. It thus helped me as the facilitator ensure that every student was focussed on responding to all the aspects of the question.

Using the essay writing frame⁶

While Zara, Zinzi and Thabo could move from the analysis of the transcript to writing a draft essay on their own after their first one-to-one academic literacies session, Lera and Kagiso scheduled another session to complete the transcript analysis and discuss and write their ideas on the essay writing frame (See Appendix I) so that they could construct a draft essay. This allowed each student and I to talk through constructing an argument with multiple paragraphs and then an introduction and conclusion using the draft essay writing frame to make notes and record evidence from the transcript analysis framework. The students could then use the ideas on the essay writing frame to construct a draft essay.

⁶ See Appendix I for the essay writing frame

Step 3: Academic literacies session 2: Negotiating meaning in the Classroom Discourse essay drafts

To demonstrate in greater detail how students' awareness of reading and writing could shift, I discuss an extract from Lera's draft Classroom Discourse essay represented in Figure 5.8 below. See Appendix J for a larger version of Figure 5.8 as well as Appendices K, I and L for larger versions of the texts seen below in Figure 5.8.

Figure 5.8. Intertextuality in Lera's Classroom Discourse draft essay (See Appendices J, K, I and L for larger images)

One of the problems identified by the lecturer who marked Lera's unsuccessful History of Education essay was that she had described a "muddled" version of historical events instead of providing an argument and analysis of how the past influenced the present as required by the essay question (See Figure 5.1, page 134). An analysis of Lera's Classroom Discourse essay draft in Figure 5.8 above shows how she starts constructing an argument by firstly making a claim then providing evidence from her transcript to prove her point. To support her emergent argument structure, she draws on both the structure of the writing frame and on the structure of Gibbons' (2009: 136) text. In area [1] of Figure 5.8, Lera used subheadings which

were similar to that of the essay writing frame (See Appendix I) and wrote “Body – Paragraphy – Main Idea 1”. Though often interpreted as ‘basic’ planning, Lera’s use of subheadings indicate that she was aware that she had to organise her ideas around a central premise. In the area labelled [2] in her draft above, Lera started with a topic sentence which identified a theoretical concept from the essay question when she wrote “Pattern of the classroom interaction, the type of interaction is mostly initiation-response-evaluation (IRE), it typically consists of “three” moves”. This sentence introduces the main idea of the paragraph and shows that she incorporated some of what she learned about structuring paragraphs. In area [3], Lera’s referencing is correct though she misspells Gibbons as “Gibbon”. My annotation in area number [4], “explain/ quote” above her first sentence, was written because I wanted Lera to explain or define the terms “initiation-response-evaluation (IRE)”. Another sign of Lera’s development as an emergent writer that moved from writing in narrative or descriptive mode to analysis can be seen in the evidence she provides from her transcript in the words “For an example in line 32-38”. Area [5] shows us that Lera retains the transcript numbering and proceeds to provide an example of IRF/IRE classroom discourse from her transcript by including a teacher question and the learners’ response. In area [6] Lera also identifies and labels each part of her example from her transcript she wrote, “Move 1 – (Initiation), Move 2 (Response) and Move 3 (Evaluation)”. Though Lera mirror’s Gibbons’ (2009) exact structure from the reading, which I argue would be acceptable in science texts, these short descriptors would not be as accepted in the Classroom Discourse essay without the longer explanations that Gibbons (2009) provided. Each descriptor would have to be supported by sentences that define and explain the terms. In the academic literacies session I explained to Lera that the writing frame and its subheadings were used for planning only and to help her organise her ideas and was not needed in her final essay. Next, in Figure 5.9. I compare the extract of her Classroom Discourse essay draft to her final assessed Classroom Discourse essay.

Comparing the Classroom Discourse essay first and final drafts

Figure 5.9 below shows how the one-to-one academic literacies session mediated shifts between Lera’s draft and final essay. The left side of Figure 5.8. reveals the

conversation between Lera and I on including the definitions of the terms and the right-side features images of Lera's draft and final Classroom Discourse essays.

Transcript from consultation on draft essay	Sample from Classroom Discourse draft and final essays
<p>Soraya: If you say it consists of three moves you must explain it [Area 1]</p> <p>Lera: Oh, not reference it like this? [Area 2]</p> <p>Soraya: Ok, you must explain it or quote, ok. Then you give an example.</p> <p>Lera: Oh...ok</p> <p>Soraya: Maybe more than three steps, maybe. So, you make the claim [reading from the draft] 'the type of interaction is mostly initiation-response-evaluation', that's your claim, right and your main idea. Er... [reading from the draft]" it typically consists of three moves," then you've got to explain what the moves are and then give the example...</p> <p>Lera: Like I said from 32-38 and then from each of my thingy [pointing to the essay draft], I said it's Move 1 (Initiation), and then Move 2 (Response) and Move 3 (Evaluation). [Area 2]</p> <p>Soraya: So, this is great but you still need to do it there [pointing to the terms that needed explaining]</p> <p>Lera: Ok. So, you say I explain or quote</p> <p>Soraya: So, you either paraphrase or quote the moves</p> <p>Soraya: If you say it typically consists of three moves, [pointing to the draft] there is nothing afterwards that talks about the moves.</p>	<p>Draft Essay:</p> <p>1</p> <p>BODY-PARAGRAPHY: MAIN IDEA 1</p> <p>Pattern of the classroom interaction, the type of the interaction is mostly initiation-response-evaluation (IRE), it typically consists of three "moves" (Gibson, 2009:136). For an example in line 32 - 38:</p> <p>32. <u>Teacher</u>: You are giving me the similarities, so yes even in base we have bases that are corrosive.</p> <p>33. we also have those bases that are dangerous, that we can't feel or we can't taste. So now we have</p> <p>34. litmus paper, litmus paper is the one that is used to distinguish between. To distinguish a substance</p> <p>35. whether is an acid or a base. So now in the acid it turns the blue litmus red, what do you think in</p> <p>36. base does?</p> <p>37. <u>Learners</u>: Turns red litmus blue.</p> <p>38. <u>Teacher</u>: Turns red litmus blue [Writing on the board].</p> <p>2</p> <p>Move 1 (Initiation)</p> <p>Move 2 (Response)</p> <p>Move 3 (Evaluation)</p> <p>...that is how most of the dialogue is like initiation-response-evaluation (IRE)</p>

<p>Lera: Oooh, ok</p> <p>Soraya: So, if you say it's got three moves then you have to state 'Initiation in which the teacher asks the question, Response, in which the learner responds to the teacher question and Feedback or Evaluation where the teacher responds to the learner, ok, answers the learner's response. Then you are going to say 'for example in lines 32 to 38.</p>	<h3>Final Marked Essay</h3> <p>bases in grade 7 but not grade 8, they are in grade 9 now. It is a mixed classroom with coloureds and xhosa learners speaking English but sometimes their own home languages, with boys and girls at a secondary school at 11:50am in the morning. The classroom interaction takes place between the teacher and the three learners plus the whole class of 37 learners. They are sitting in pairs of 3 rows, on the board is a list of acids properties. ✓</p> <p>Pattern of the classroom interaction, the type of the interaction is mostly initiation-response-feedback/evaluation(IRF/E),it typically consists of three "moves" Gibbon (2009:136) the teacher initiates a question (a "display" question to which he or she already knows the answer), a learner responds to the question and the teacher gives positive or negative feedback on the learner's answer. ✓</p> <p>From my impression that is how most of the dialogue in the transcript is like, an initiation-response-feedback/evaluation (IRF/E) exchange. The IRF/E nature of the interaction can be seen in the percentage of teacher and learner talk, the total number of the teacher words is 504, the number of words per turn is 20 in total, the teacher speaks 94% and the average words per turn is 25. ✓</p> <p>While the total number of the learner words is 33, the number of words per turn is 21 in total, the learner speaks 6% and the average words per turn is 1.57. This shows the teacher does most of the talking using a lot more words than the learners, which is typical of an IRF/E pattern of interaction. ✓✓</p> <p>We can also see the IRF/E pattern reflected in the number of types of questions the teacher asks a learner responses, teacher questions count is 14. Teacher questions were a mix of open and closed ended questions, open ended questions are questions to which the teacher knows the answer and where there is</p>
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Figure 5.9: Mediating the changes between the draft and final versions of Lera's Classroom Discourse essay (See Appendices L and M for a larger versions of the Lera's essays)

On the left side of Figure 5.9. above, Lera and I discuss the difference between providing examples of the moves from the transcript which Lera had done, she says "Like I said from 32-38 and then from each of my thingy [pointing to the essay draft], I said it's Move 1 (Initiation), and then Move 2 (Response) and Move 3 (Evaluation)" which is correct. But she also needs to define the terms or include the explanations

of Gibbons' terms before she provides an example of IRF/IRE from her transcript. When I say to Lera, "If you say it typically consists of three moves, [pointing to the draft] there is nothing afterwards that talks about the moves" and Lera's response, "Oooh, ok" shows that she is starting to understand that she should include the explanations or definitions of the terms after she mentions them and before she provides examples from her transcript.

In her final essay, in the areas labelled 3, 4 and 5 above, Lera included the explanation of IRF/IRE that I suggested (see area 3) but removed the example of the teacher question and learner response as evidence of IRF/IRE and replaced it with the percentages of teacher and learner talk as evidence of IRF/IRE classroom interaction which also supported her claim. Lera's understanding of how to provide evidence had developed for example, in her final essay Lera wrote that the teacher spoke 504 words and spoke "94%" of the time (see area 4). She stated that "This shows that the teacher does most of the talking using a lot more words than the learners which is typical of an IRF/IRE pattern of interaction" (see area 5). Lera's final essay was marked by one of the lecturers that taught the "Language and literacy development in multilingual societies" module and Lera earned a 64% mark which was a significant improvement from her first unsuccessful History of Education essay for which the mark was 43%. Lera's assignment marks continued to improve over the year (70% Ethical Decision Making; 75% Curriculum essay) and the progressive mark increase Lera admits later is the reason why she kept on attending the writing group discussions and the academic literacies writing sessions.

The facilitator's critical reflections on scaffolding the Classroom Discourse essay

Scaffolding the Classroom Discourse essay as well as the initial discussion with Lera on why she thought she had failed the first essay of the PGCE programme, the History of Education essay, were central to shaping my learning and the design of the intervention going forward. Lera's experience showed me how a student's financial precarity at the start of the year when their funding was uncertain and how a

lack of academic literacies scaffolding (for the History of Education essay) could impact their written assessment. This caused me to consider how I could provide more scaffolding to the students and led to the design of the 5-day July holiday workshops. Over these five days, I focussed on aspects of academic literacies with which students had particular difficulty. The 5-day July holiday academic literacies workshops also allowed me to revisit Part 2 of the Classroom Discourse essay question that I was unable to scaffold in my essay preparatory workshop because we had run out of time. In Part 2 of the essay question the students had to create reading and writing tasks in science or mathematics, their content area, and it was important to return to this because understanding the science literacies could assist students with planning lessons.

In the section above, I discussed the designed-in scaffolding (Gibbons, 2009) aspects of my intervention and analysed how the combination of an essay preparatory workshop and academic literacies sessions on transcript analysis, working with multiple texts and support with essay drafts assisted students with writing their Classroom Discourse essay. In the next section of this chapter, I focus on an example of interactional scaffolding and on improving Lera's lesson plans. Lera asked for support with her lesson plans because she had failed her first Teaching Practice. As I was working with Lera there was a growing awareness that I was not (as I initially thought) working towards the production of a single text or type of texts (improving a lesson plan or lesson plans) but rather that the intertextuality of writing was slowly becoming foregrounded in important ways. I became aware of how the lesson plan was "part of an *intertextual* chain or network of texts and events" (Fairclough, 2010: 420). To make my argument on how a student's lesson plan writing can be supported, I combine transcription from the academic literacies session on Lera's lesson plan with extracts from her TP reflective journal and her TP supervisor's report to show how her failed lesson plan was produced and how a student's development around creating lesson plans can be supported.

Part Two: Mediating professional genres, a lesson plan and a PowerPoint presentation

In this section I discuss how academic literacies facilitators are sometimes asked by students for assistance with texts without having time to prepare. When this occurs, facilitators must bring what they know and have learned, their prior experience and knowledge, to support the student's understanding and development. Whereas my support for the Classroom Discourse essay was an example of "designed-in scaffolding" (Hammond and Gibbons, 2005), I now focus on Lera's lesson plan and PowerPoint presentation using what Hammond and Gibbons (2005) describe as contingent or interactional scaffolding. Contingent/interactional scaffolding "occurs in the moment-to-moment interaction between teacher and student" (91) and unfolds during their interaction. The data in this section comes from the "moment-to-moment" interaction between Lera and I during a two hour (5-7pm) academic literacies session on Wednesday, 13 July 2016, the third day of the 5-day July holiday workshops. On this day, Lera asked me if I would help her understand her Teaching Practice supervisor's evaluative report (TP1 report) since she had, received an "E", 40-49% as a teaching practice (TP1) mark. The TP supervisor is a university lecturer or designated person appointed by the School of Education to observe, guide and assess student teachers' during teaching practice. Each TP supervisor is responsible for assessing the teaching of a number of student teachers. The TP supervisor evaluates two lessons and completes a formal report after each of the two assessed lessons. The assessed or critiqued lessons are colloquially called "crit" lessons by students and staff and the date of the assessed lessons are negotiated between the TP supervisor and the student teacher. Though each student would have had the experiences of the PGCE theory lectures, methods classes, tutorials and presumably the assistance of the mentor teacher to support them, the "crit lessons" were still stressful. The assessed "crit" lessons are highly charged experiences for the student teachers who are often observed by other students, the mentor teacher and the TP1 supervisor whilst their teaching is being assessed.

It is a cause for concern when a student teacher receives such a low mark (an "E" or 40-49%) for teaching practice as passing the teaching practice component is a requirement for graduation. Teaching practice assessments also play an important role in demonstrating to the Teaching Practice supervisor, School of Education,

university and school whether the student is capable of becoming a teacher. All these institutions (School of Education, the university and the school) and their representatives had the responsibility of preventing students who were not capable of becoming competent teachers from burdening an already fraught education system. Drawing on one of the convergences of academic literacies and decolonial theory, I argue that the transformative position of academic literacies accepts that practices around writing and texts have to be viewed from the position of the student not the institution. Similarly, Lopez-Gopar (2016) writing from a decolonial perspective states that decolonising means having student experiences and contexts shape the curriculum. The challenge for me was to both understand Lera's difficulties and address them in our interaction in the academic literacies session. Though I was working within the PGCE programme, my primary research focus was the writing assessments of the Education core-course and Lera's request for assistance led me to later extend support to students assisting them with the texts of the broader PGCE such as their lesson plans, book reviews and the TP journal. In response to Lera's request, I thus later took on the role of scaffolding literacies across the PGCE programme.

I draw on the methodology of building a case to investigate the academic literacies demands of two text types of student teaching practice, the lesson plan and PowerPoint presentation. The interaction between Lera and I during the academic literacies session discussed next, led me to change the content of the last two days of the holiday workshop (Thursday 14 July and Friday 15 July 2016). In my discussion of Lera's work, I draw on the transcripts of the audio recorded dialogue of the academic literacies session between Lera and I, extracts from the TP1 supervisor's report, Lera's Teaching Practice (TP1) journal and photographs from the next day of the workshop where we shared what we learned with two other students, Zara and Zinzi. I note that Lera's experiences as well as the exchanges between Lera and I make up most of the data sources. However, there are other documents which I did not have access to as these were considered confidential. A student's teaching practice mark is composed of two other confidential documents, namely the school's report submitted by the mentor teacher which is not shown to the student and the external examiner's report. The external examiner visits schools in the second teaching practice (TP2) to get an "overview of supervision and the standard

of teaching of the students” (Teaching Practice Handbook 2016: 2) and this information is presented to a university committee.

At the start of the academic literacies session, Lera asked me to read a printed copy of her TP1 supervisor’s report. The report was not long, written in Education discourse and Lera wanted to understand what she had done wrong in the first teaching practice so that she could develop, improve and pass the second and final teaching practice (TP2). I knew that the TP1 supervisor’s report came at the end of an assessment of the teaching practice period and that there were other texts that preceded Lera’s TP1 report. I drew on Fairclough’s (2010) view that texts involve broader intertextual chains which he describes as “networks of texts and events”, where what writers say, do and write about in a particular text is related to other texts and other events (420). Fairclough (2010) argues that “we cannot understand particular events or particular texts, or the significance of these for the participants without exploring (and asking about) these wider intertextual chains” (Fairclough 2010: 420). While the intertextual chain for the Classroom Discourse essay was clear as the students had lectures, a particular reading list and an essay question to answer, I realised that I did not have all the texts Lera had used and I decided to attempt to reconstruct the intertextual chain that resulted in Lera’s TP1 report. I asked Lera to show me her lesson plan and in the discussion of the lesson plan she referred to the corresponding PowerPoint presentation of the lesson. She also said that she had wanted to show videos during the lesson but only managed to finally show one video. I then read her lesson plan, and PowerPoint presentation, asking her questions and then we viewed the video that she had used in one of her lessons. We discussed the various documents and Lera recounted her experiences at the school, the classroom discourse and her experiences during the assessed or “crit” lessons. It became clear that the context of the school, the mentor teacher and learners also influenced her teaching in significant ways and were part of the intertextual chain ending in the TP1 supervisor’s report.

Constituting the intertextual chain for teaching practice texts

Lera’s TP1 supervisor used a tabular report designed by the School of Education to guide teaching practice assessments. On one page of the report, his evaluation was

represented by ticks with short phrases at one or two of them, see Figure 5.10. On the other side of the report were longer written comments but I only analyse the first paragraph of his comments as an example of how assessment feedback that is written in educational discourse can create difficulties for students like Lera who have English as an additional language and are new to the discipline. The marks for both crit lessons were on the same report sheet with the first crit lesson ticked in blue ink and the second ticked in green ink. According to Lera, “everywhere where it’s with green [ink]comments it means it’s for the second crit and for the blue one, it means it is for the first crit” and Lera says later “with the first crit, I got “D” for it and for the second Crit, I got “E” (see Figure 5.10). Figure 5.10 is a black and white photocopy of a section of Lera’s TP supervisor’s report.

D ✓	50% - 54%	Mediocre (barely adequate) : the teacher demonstrates reasonable competence in some of the observation elements	Mark for Crit lesson 1
E ✓	40% - 49%	Poor : the teacher demonstrated some competence in some observation elements, without monitoring and encouragement	Mark for Crit lesson 2
F	30% - 39%	Very poor : the teacher was incapable of demonstrating competence in most observation elements, and performed unacceptably	

Figure 5.10: A black and white photocopy of Lera’s TP1 Supervisor’s report

Figure 5.10 above shows the TP1 supervisor’s use of tick marks (see “Mark for Crit lesson 1 and 2 above) to attribute value to Lera’s teaching practice and is, I would argue, part of the way that feedback contributes to what Lillis (2001: 53) refers to as the “institutional practice of mystery” at university. The report in its tabular format is meant to function as a guideline and TP1 supervisors use the comments section to explain in greater detail what the student’s problems were and how these could be corrected. The first paragraph of the TP1 supervisor’s explanation of Lera’s TP crit lesson marks is reproduced unchanged:

Lera’s planning and preparation for lessons did not allow her to teach with enthusiasm and confidence. She appeared to be very anxious about her supervision lessons. In this regard, she was not present for her first supervision. Her lesson planning and preparation

showed limited evidence understanding the educational needs of her pupils and knowledge [error as typed] of appropriate pedagogic strategies to transmit knowledge. Her anxiety also affected the sequencing of content and pacing of lessons.

(Extract 5.2. TP1 supervisor report, lesson evaluation of crit lessons 1 and 2)

Lera's TP1 supervisor does not mention or name the elements Lera demonstrated some competence in, neither does he provide a clear sense of what Lera needed to correct nor does he offer suggestions for improvement. The report does identify three problems that caused her to fail; these were with lesson planning, revealed in the TP1 supervisor's words "Lera's planning and preparation for lessons did not allow her to teach with enthusiasm and confidence". Secondly, she had a problem with pedagogic strategies stated by the TP1 supervisor as "Her lesson planning and preparation showed limited evidence understanding the educational needs of her pupils and knowledge [error as typed] of appropriate pedagogic strategies to transmit knowledge". Thirdly "Her anxiety also affected the sequencing of content and pacing of lessons". Lera said of her TP1 supervisor's comments on the TP1 report:

I felt like he only showed me the wrong of, like everything wrong that I did. But then I didn't see...um...anything positive that I can use to build on. So, I only saw ok, what I did not do. Ok, that's how I felt when I read the comments. It's everything that I did not do.

(Extract 5.3. Lera on her TP1 supervisor's comments on her TP1 report)

The TP1 supervisor provided feedback written in educational discourse (e.g., "pedagogic strategies" "pacing" and "sequencing") which was not explained or contextualised through examples. As Lera stated he only commented on "what I did not do" and that there were no constructive comments in her words, nothing "positive that I can use to build on".

To further understand the intertextual chain, I refer to Lera's TP1 journal where she reflected on her experiences of teaching practice and I use her comments as evidence to demonstrate how the school context and the lack of productive feedback from her TP1 supervisor influenced the intertextual chain of Lera's lesson plans and TP1 report. In the academic literacies session Lera noted that there were almost no comments in her TP1 journal saying:

my journal is so clean [paging through her TP journal]. I was expecting to see comments in pencil. With Zara [in her TP journal], I saw a lot of comments...So with my supervisor, I see that everything is clean.

(Extract 5.4. Lera, on her lesson plans and TP1 report)

Lera noted that her TP1 journal had almost no comments while Zara's TP1 journal was filled with comments. Most TP1 supervisors set weekly deadlines when students have to submit their TP journals for review so that the supervisor has an idea of the student's experience and can offer support where needed through commenting on the TP journal entries. However, the Teaching Practice Handbook 2016 states that "During the course of the [observed] lesson and in any other free time, the supervisor should browse the student's practice teaching journal, to acquaint him or herself with the student's progress (it may also be emailed the day before)" (8). Reviewing TP journals, the day of the observed lesson may be too late because the observed lessons may be assessed lessons also so the student receives feedback and assessment without having time to implement changes.

Extracts from Lera's TP1 journal during the teaching practice period that took place from 5 April to 5 May 2016 reveal the details of her experience and what she was communicating through her TP1 journal entries. Lera's first entry on Tuesday 5 April, the day teaching practice started provides an idea of the context of the urban school where she was a student teacher. During apartheid, the school was administered by the House of Representatives for "coloured" English and Afrikaans speaking learners. Post-apartheid, the school had mainly "coloured" Afrikaans first language learners and isiXhosa speaking learners from poorer communities. The majority of the learners were thus English additional language speakers, with Afrikaans or isiXhosa as a home language, while the language of instruction used at the school was English. Lera wrote in her TP1 journal that, there was a high failure rate amongst learners and, "there are behaviour issues and attitude". She wrote further that on the "first day of school 100 and something learners arrived late...They [school principal and teachers] keep them for detention after school or others end up being suspended if found with drugs or alcohol" (Tuesday 5 April 2016 – Lera's TP1 journal entry). Another significant aspect of the school was revealed in Lera's entry on 12 April, when she taught her first class and noted that there was a shortage of textbooks and that not all the learners were writing down school content. She wrote

in her TP1 journal, that the “Disadvantage about this class was that they do not have enough textbooks, was kind of difficult having to teach while they had no textbooks or notes in front of them” (Tuesday 12 April 2016 – TP1 journal entry).

During the academic literacies session, when I asked Lera how she found the teaching practice experience, she answered saying:

It was quite difficult when it [teaching] started. Like I wasn't used to having, like solo charge of the whole class. It was like my first time. Observation week was ok, but then second week when I had to start teaching was like difficult for me because I also had to start preparing for like lesson plans, which is, I also have to prepare a lesson. So, you find that there were topics I also had to teach myself first before I had to teach the learners.

(Extract 5.5. Lera, on her challenges during TP1)

Lera's words reveal the number of new growth areas she faced during teaching practice, firstly, taking “solo charge” or being in the position of authority, leading the learners through the lesson for the first time meant that Lera was in the unfamiliar position of presenter and unsure of how to conduct herself. Lera said, “I also had to teach myself [the lesson content] first before I had to teach the learners” revealing that she needed to familiarise herself with school content before she could compose the lesson and did not necessarily have time to practice presenting the lesson.

Lera's TP1 journal entry provides a detailed description of the kinds of difficulties that she experienced with creating lesson plans and selecting curriculum content. In the extract below, Lera voices her difficulties with selecting content for teaching Grade 9 social science:

I am finding difficulties to prepare for any social sciences topic as I am worried that I am not teaching well as I can't seem to find a technique for teaching it. I feel insecure that I might not be teaching the relevant stuff and can't break it down to make it easy for the learners to understand the point Grade 9 level with clear life examples... Two of my colleagues [PGCE students] come to observe my lesson during this period and the mentor teacher was also there. I lost it in class, I became emotional I went outside and one of my colleague's was there to comfort me, could not control it ended up crying. It was more the fact I felt I have let down the class that made me cry. I will admit I have to put more effort into planning this lesson, but I still felt so scared it was not enough to even get a single good remark

(Extract 5.6. Lera, TP journal entry, Friday 15 April 2016).

Lera's words in her TP1 journal entry "I am finding difficulties to prepare for any social sciences topic...I can't seem to find a technique for teaching it" was a communication with the TP1 supervisor who was the only reader of her TP1 journal at the time. She was specific about the kind of help that she needed when she said, "I might not be teaching the relevant stuff and can't break it down to make it easy for the learners to understand the point Grade 9 level with clear life examples". Lera's words demonstrate that she was very aware of the importance of sequencing in a lesson plan, however she needed assistance with the selection of the content and linking the content to everyday examples or experiences. Having two fellow students and the mentor teacher watch her struggle through the lesson was so overwhelming that she said that she "lost it in class, ...became emotional...could not control it...ended up crying". As Lera's experience showed, without the support of scaffolding new literacies such as presentation skills and decisions about which specific aspects of content to teach and how to make complex information appropriate for Grade 9 learners by linking the social science knowledge to everyday examples the learners could recognise, was a struggle. Her words "I felt that I let down the class..." shows that this was overwhelming for a student who was trying to implement the new practices that she had recently learned. Despite this difficult situation, Lera was committed to improving and wrote in her TP1 journal "I will admit I have to put more effort into planning this lesson". However, the timeframe within which Lera had to learn multiple new practices and the lack of meaningful feedback and scaffolding meant that her efforts were in her own words "not enough to even get a single good remark" from the TP1 supervisor.

Lera revealed that the PGCE methods lectures did teach her important aspects of creating a successful lesson plan. She understood for example that a lesson plan had different components and that different sections of the lesson plan had different purposes, saying:

with the lesson plan we first have to show um, lesson objectives and then key questions, and then introduction, of how we are going to introduce the lesson, obviously lesson objectives, it's what the learners must know after, and then the lesson and then key questions that I will be asking during the lesson. And the introduction of how I am going to introduce the lesson. Mmm, and then after

introduction it's body of my lesson now. So, which I take it, it's where I get into the detail of the topic

(Extract 5.7. Lera, demonstrating awareness of how to create a lesson plan)

Lera correctly recounts the different sections of the lesson plan starting with “lesson objectives, it's what the learners must know after” the lesson and “body of my lesson.... So, which I take it, it's where I get into detail of the topic”. However, the way that content or knowledge is retrieved from the textbook and reworked into a lesson plan and then reworked again into a PowerPoint presentation was complex and difficult for her.

Lera seemed to need support with selecting subject content as well as integrating the different types of knowledges like lesson objectives, learner activities and subject content knowledge into the format of the lesson plan. The extract from our discussion below provides more detail on what aspects of creating/ composing a lesson plan she had problems with:

In the PGCE programme, they just only give us the strategies of how to approach a lesson and how to see that learners are...like how to teach and see that your learners are learning. They don't quite get into the content of the textbooks that we use in class [at school]. So for that, we have to teach ourselves, or probably maybe [lecturers] take it that we did geography in high school and which is something that I find that I did a long time ago and I forgot most of the stuff. So ja but with the content from the textbook, you have to teach yourself or if maybe you forgot or some of those things that you still remember, so maybe it's just revision, just to be sure of your content and what you are going to be teaching the next day.

(Extract 5.8. Lera, on the need to learn or re-learn school content)

Thus, reading the textbooks or ‘ways of taking’ (Gee, 1986) from textbooks such as identifying the crucial aspects to cover in a lesson may not be addressed by all lecturers. Rather it is assumed that students would already know how to select crucial learning points either from undergraduate study, or from examples in the PGCE subject methods class or by remembering the school subject content from their own schooling experience. Recalling school content was a problem as Lera stated, “I find that I did [school content] a long time ago and I forgot most of the stuff”. As revealed in a previous chapter, Lera's schooling involved rote learning sections from a textbook in English managed by the teacher, which meant that she

may not have developed an understanding of the school content at the time she learned it.

The intertextual chain for creating a lesson plan and the accompanying PowerPoint presentation during teaching practice involved students' reading multiple texts such as the PGCE Teaching Practice Handbook, the National Department of Education's curriculum documents, multiple subject textbooks, internet articles or videos and mentor teacher texts. From these six texts students then had to generate or create at least three new texts: a lesson plan, a PowerPoint presentation and reflective writing entries in their TP1 journal. Together these constitute at least nine texts each with its own specific discourse and required ways of reading and writing which had to be integrated and reconstituted by the student teacher. Negotiating these texts is a steep learning curve for students like Lera who had very little previous experience with academic reading and writing practices. Though all PGCE students have access to lectures and seminars where they are taught key concepts and attend tutorials where tutors can demystify academic reading and assist with essay preparation and writing, students like Lera needed additional support including "time and ample opportunities for practice... to develop skill in writing across diverse genres and registers" (Devereux and Wilson 2008: 124). Within the constraints of a year-long programme like the PGCE that operates within both university and school timetables, additional time and opportunities for practicing reading and writing are not readily available and have to be created if these students are going to be treated equitably.

Understanding the academic literacies demands of the lesson plan

Another aspect of the selection of content for lessons that student teachers must negotiate is collating and integrating various knowledge sources such as multiple textbooks and negotiating the difference between school and university knowledge. Lera experienced this tension when she was critiqued by the TP1 supervisor after a Grade 9 lesson, she recalled, "there was a point where he said I was misleading them [the learners]". During the lesson, Lera used the term "picture formula" from an online textbook instead of "structure formula", a more preferred term from a disciplinary perspective and in the supervisor's view. Using multiple textbooks and books as reference texts and sources of school knowledge is a practice that is

encouraged because it gives teachers access to varied kinds of information and exposure to different ways in which the same subject can be presented. But negotiating different sources and integrating information is not an academic literacies practice that is overtly taught to student teachers; rather it is assumed that students doing a postgraduate qualification would already know this. Lera explained that though she was given a school textbook from her mentor teacher to use for lesson planning, she wanted to use another resource to supplement the school textbook. To do so without having to use her limited financial resources she searched and found another textbook in electronic format online. She explained why she believed in the legitimacy of the term “picture formula” in the online textbook which her TP1 supervisor interpreted as misleading the learners:

this one on picture formula, the textbook that I am using online, there was a part where, you find that sometimes they call this um...this ‘H...O..’ like structure formulas, and then if you get to draw it like this [drawing an example] they call it picture formulas ne, so even in that textbook, the textbook that the teacher borrowed me there, there was a part where, there was something like this of picture formula and structure formula. So, when I used the picture formula word, I knew that they [learners] knew it because they did it with their teacher and it is there in the textbook so I was like [using] ‘picture formula’. So, I don’t know if I was to open the textbook and show him like I was talking about something that I know is from the textbook, it’s not something that I came up with myself.

(Extract 5.9. Lera, on picture and structure formulas)

Lera explains why she did not think that she was misleading the learners by using the term “picture formula” instead of the term “structure formula”. In the extract above she explained, “when I used the picture formula word, I knew that they [learners] knew it because they did it with their teacher and it is there in the textbook”. This difference in word usage reflects a difference in the complexity of the knowledge between school and university because though the terms “picture formula” seem self-explanatory, these terms are not necessarily accepted within the discipline at university as indicated by the TP1 supervisor’s objection to Lera’s use of the terms. The difference in terminology is perhaps another reason why Lera was struggling to determine the content of her lesson plans and why she felt that she was not able to draw on her undergraduate university subject knowledge because she would have learned the disciplinary terms “structure formula” and not “picture formula” or other

terms present in school knowledge. It could also be the reason why Lera felt that she had to teach herself the content again because the school iteration of the knowledge differed substantially from the university content knowledge. As academic literacies facilitator, I was unable to resolve this difference between the terms “picture formula” and “structure formula” since science is not my disciplinary area and the facilitation was happening without preparation. I suggested that Lera could say to the learners that the terms “picture formula” and “structure formula” refer to the same representation but that “structure formula” is the preferred and probably assessed term. From a disciplinary perspective however, this suggestion may not be acceptable at all. It remained a point for future clarification with a science methods lecturer who was familiar with both university knowledge and Grade 9 science. It also highlights a point of tension for academic literacies facilitators working in disciplinary areas, the need for points of clarification and new learning for the academic literacies facilitator. Jacobs (2013) suggests that students benefit when academic literacies researchers work with subject specialists and that such relationships have to be institutionally encouraged and nurtured.

Lera’s experience raises what Mignolo (2007: 47) calls lack of co-evalness or uneven power relations between student teacher and the TP1 supervisor as Lera was uncertain whether it was appropriate to explain why she chose to use the terms “picture formula”. Her words, from the extract above, “I don’t know if I was to open the textbook and show him like I was talking about something that I know is from the textbook, it’s not something that I came up with myself” show her uncertainty in her right to explain or question the TP1 supervisor. She doubts her right to explain her use of a term to a “supervisor” who is assessing her, and this reveals the unequal power in the relationship.

Time management was another aspect of lesson planning that was challenging for Lera, both allocating time for activities and keeping to a specific time for each activity so that the lesson was taught in 45 minutes. Lera articulated her challenges with time management and lesson pacing in her TP1 Journal. She wrote for example that she “wanted to give them [the learners] an exercise but it was already the end of the period. I need to know how to divide [the activities] to prepare for a 45-minute lesson” (Thursday 14 April 2016 – Lera’s TP1 Journal Entry). When I examined

Lera's lesson plan template which was given to her by her TP1 supervisor, I realised that there was no time allocation listed on the lesson plan itself and neither did Lera allocate specific time to learner activities. The image below (Figure 5.11) is a photograph of Lera's Grade 9 lesson plan, the "Reactions of Non-metals with Oxygen" lesson that formed part of the intertextual chain.

Lera's TP1 Lesson Plan

LESSON PLAN: PGCE		
Name of student: Lera		Subject: Natural sciences
Date: 29 April 2016	Duration of lesson: 45 minutes	Grade: 9
Name of school: High School		Number of learners in the class: 37 learners
Topic: The general reactions of non-metals with oxygen		
Lesson objectives: Learner should be able to: <ul style="list-style-type: none"> Name compounds Write equation in: <ul style="list-style-type: none"> Word equation Chemical equation (symbolic equation) Picture equation Identify the impact of chemical reaction on the environment. 		
Learners' prior knowledge: Force, Reactants, Atoms, Products, Form, Properties, Break. <ul style="list-style-type: none"> In a chemical reaction, the substances that react with each other are called _____ and the substances that are produced are called _____. The substances that are produced have new and different chemical _____. In reactions, they _____ are rearranged. A chemical bond is a _____ that holds _____ together. In a reaction, the chemical bonds in reactants _____ and new bonds _____ in the products. 		
Questions: Key questions: <ol style="list-style-type: none"> What happens when a non-metal and oxygen react? What is the product called? How should we write equations for the reactions of carbon and sulphur with oxygen? Why do we have to burn it first to see the reaction between non-metal and oxygen? What does the reactivity of the different non-metals tell us about the periodic table? What are the differences between metals oxides and non- metals oxides. 		
Formative Assessment: <ul style="list-style-type: none"> Activity 1 (carbon reacting oxygen) Activity 2 (sulphur reacting with oxygen) 		

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Extended activities: <ul style="list-style-type: none"> Extra activity including both examples of non-metal carbon and sulfur reacting with oxygen. Learners need to explain some main concepts such as preservative and non-renewable energy resource.

Teaching & learning activities
Introduction <ul style="list-style-type: none"> We are to investigate the combustion of different non-metals with oxygen. Where we find non-metals on the period table. Write the equation for the reactions of carbon and sulphur with oxygen and their products. Learners use textbooks to identify non-metals on the Periodic Table.
Lesson development <ul style="list-style-type: none"> Explain process of non-metals reacting with oxygen. Give examples of non-metals carbon and sulfur reacting with oxygen. Give activities to check their understanding. Summary concept map.
Conclusion Summary: Concept Map.

Instructional strategies (tick appropriate block/s)		Resources (tick appropriate block/s)		
Direct instruction	Inquiry		Textbooks	Newspapers
Teacher presentation & explanation	Investigation		Chalkboard	Television
Question & answer	Problem-solving		Charts	Slide presentation
Class discussion	Other		Hand outs	Video
Group discussion	Practical work		Pictures	Audio recordings
Practice			OHP	Data projector

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Figure 5.11: Lera's Grade 9 lesson plan, "Reactions of Non-metals with Oxygen" (See Appendices N and O for larger images of page 1 and page 2 of this lesson plan)

The absence of time allocation for the different lesson activities on the lesson plan meant that Lera spent too much time on introductory tasks and did not complete important content. Also, though she listed a learner activity in the Introduction, "Learners use textbooks to identify non-metals on the Periodic Table" she does not stipulate which non-metals learners will look up in their textbooks, so there is no

boundary or end to this activity. Another aspect which affected the implementation of the activity was the fact that she asked the learners to use the textbooks in the activity when she had previously noted in her TP1 journal that the learners “do not have enough textbooks,” (Tuesday 12 April 2016 – Lera’s TP journal entry). Before Lera started teaching there were already identifiable challenges to the success of her teaching which she was not aware of at the time.

Lera’s TP1 journal provides insight into what shaped some of her decisions regarding the content of the lesson plan seen in Figure 5.11. Here I wish to show how her observations of her mentor teacher shaped Lera’s teaching practices and lesson plan. On the first day of her observation at the school on 5 April 2016, she observed four lessons all taught by the same geography teacher. After observing the third class, Lera noted in her TP1 journal that “The teacher did revision with all his learners from different grades of different classes. He prefers to do revision of the previous work before starting with a new topic” (TP1 journal entry 5 April 2016).

While using revision at the start of a lesson is an accepted and necessary practice, there should also be some variation in how lessons are introduced especially in multimodal subjects like science or geography. This practice of revision is consistent with Lera’s earlier experiences as a high school learner, discussed in Chapter 4, where she noted that her teachers revised content and some teachers taught the same content, sometimes, several times. As a result of her observation during TP1 and her “apprentice of observation” (Lortie, 1975; Borg, 2004) during her own past experiences at school, when Lera had to prepare a lesson plan in science for Grade 8 learners, she wrote “When planning this lesson I have struggled with where to start to hook the learners, I decided that I would start with revision on Atoms before starting today’s topic since the topics are related and learners need the background for continuation” (TP1 journal entry Tuesday 12 April, 2016, Grade 8 natural science lesson on Pure Substances, Elements and Compounds). Lera learned from her university lecturers that she needs a ‘hook’ to get the students engaged with the lesson and since she had seen her mentor teachers use revision exercises at the start of the lesson, she decided to use the same strategy. However, it took a long time for her to elicit the content from the learners as they did not have the prior knowledge and she lost half the teaching time on the introductory revision exercise. In addition, the lack of time allocation on her lesson plan meant that: “we could not

manage to finish the lesson in 45 minutes as planned, we ran out of time” and she notes further that “I need to figure out how to divide the work to prepare for a 45-minute lesson, not cover too much work or too little for 45-minute lesson” (Wednesday 13 April 2016, TP1 journal, Grade 8 natural science lesson).

Another of the TP supervisor’s criticisms, was that Lera did not have “appropriate pedagogic strategies to transmit knowledge”. This criticism is explained by a supervisor comment further down on the report, “No, at this level (Gr 9) you need to be practical”. Since I knew part of Lera’s school history and knew that Lera had written about the emphasis on revision by her mentor teachers, I asked Lera, “When you were observing, did the mentor teacher do anything practical?” Lera’s response was:

Not really, cause in physics ne, where he [mentor teacher] would come across that part, where they needed to perform a critical exercise, he’d be like, ‘ha, just jump that part, cause we don’t have um, the labs’, so that’s what I also worked on. So that’s why if I had a lesson, that included practises, I try and show at least a video that showed the practical. So, he said [the TP1 supervisor], if ever I am in a school that doesn’t have a lab, that I should bring the lab to them. That’s what he [TP1 supervisor] said or I should come to here [university] and ask for the materials if I don’t have. I didn’t know that but since well I was working with my mentor teacher, and then he’d be like no, just jump that part where he [should have] add[ed] the practical. I tried to add the video that shows the practical.

(Extract 5.10. Lera, on skipping practical science experiments)

Lera was caught between two versions of teaching science, the text-based learning experienced in low-resourced schools and interactive learning required by an elite institution, and between two institutional practices, that of the school under the direction of the mentor teachers and that of the TP1 supervisor and the university. While her TP1 supervisor and the university lecturers expected her to perform interactive practical science, the mentor teacher used a textbook-based approach to teaching science and he advised her to omit or “jump that part” when she came across a practical exercise. Lera recalled the TP1 supervisor’s verbal response to her lack of interactivity, “he said [TP1 supervisor], if ever I am in a school that doesn’t have a lab, that I should bring the lab to them. That’s what he said, or I should come to here [to university] and ask for the materials if I don’t have”. Her response was “I did not know that” indicating that she did not know that she could ask the science

methods lecturer for help and that she was not aware that the university could provide the materials she needed. If the student teacher comes from a similar low resourced school environment as the school where she was practicing, then the emphasis on experiential learning and learner activity emphasized in the PGCE programme may be subsumed under the replication of textbook-based rote science learning. Lera's experience shows the kind of support student teachers from low-resourced schools training and practicing in similar low resource schools may need. Her experience points to why students need a level of knowledge that allows them to respond to the context of the school in a way that is productive for learning. It also demonstrates the need to start thinking about how to teach and enrich the learning experience of both student teachers from and learners in low resource schools.

Scaffolding multiliteracies practices for a PowerPoint presentation

In this section I discuss the third text in Lera's intertextual chain, the PowerPoint presentation for the Grade 9 science lesson and lesson plan on the "Reactions of Non-metals with Oxygen" discussed above. Given the increasing and accepted use of PowerPoint presentations in teaching, students are given guidelines on how to use the application and present information on a slide as part of the PGCE programme. However, while some PGCE students were already familiar with and highly competent in using PowerPoint having learned the application either at undergraduate level or at highly resourced schools, this is not true for everyone. Devereaux and Wilson (2008, 129) state that computer applications and technology require new literacies and "new skills such as an understanding of visual and multimodal ways of making meaning". These require practice and for students new to the technology, using these newly learned technologies can be very stressful (Devereaux and Wilson 2008:129). Students like Lera from low resourced schools and undergraduate degrees where doing a presentation was not part of the course, had very little experience with using the PowerPoint application and giving a presentation to a live audience. These students require more practice and guidance on how to use a PowerPoint presentation as a teaching tool. Thesen (2001) states that multimodal practices or courses (especially at elite institutions) may unintentionally disadvantage students from low resourced backgrounds or schooling,

because lecturers assume a level of understanding and competence in multimodal practices that “privileged cultural capital and reproduced patterns of privilege” (132). Using PowerPoint presentations is so prevalent that even at the school where Lera was practice teaching, though there were insufficient textbooks and no functional science laboratory, some teachers did have access to a working data projector and a functional laptop and taught their lessons using PowerPoint presentations.

The scaffolding I offered Lera around her PowerPoint presentation on the Grade 9 “Reactions of Non-metals with Oxygen” lesson ranged from suggestions on how much content to include on a slide to using designs and colours that were easy to read. In Extract 5.11 below, Lera and I are discussing the appropriate amount of content to place on a slide after I suggested that Lera add a sentence to remind the Grade 9 learners what the terms “oxide” and “dioxide” refer to. I was worried that Lera was not providing enough content on the slides as the students did not have textbooks and her slides were quite sparse:

Lera: I also try not to put too much info cause they usually told us not to... if you're presenting something in PowerPoint, don't put too much information in it so I was kind of trying not to put too much information.

Soraya: Ok. Then what you need to do is add a note here...so now you have a note here that says, 'when it is oxide it means one Oxygen and when it is dioxide, it is two Oxygen'.

(Extract 5.11. Lera and Soraya, PowerPoint presentation discussion)

Lera's words “if you're presenting something in PowerPoint, don't put too much information in it” shows that she was following the general PowerPoint slide convention that text on slides should be minimal. I suggested that she use the note function that allows a presenter to add some additional information by saying “add a note here...so now you have a note here that says, 'when it is oxide it means one Oxygen and when it is dioxide, it is two Oxygen'”. I explained that using a note allows the presenter to have access to additional information that would not appear on the slide. The general guideline of minimal text on a slide is to prevent the audience from being overwhelmed. In a classroom context however, the amount of content as well as the sequence of the content can be the difference between learners understanding the topic or being confused because the information is fragmented.

In Figure 5.12 below, I am trying to address the TP1 supervisor's comment that Lera's "sequencing of content and pacing of lessons" needed improvement (TP1 supervisor's report). When I read Lera's PowerPoint presentation, the lesson sequence did need some revision as the objectives on the first slide did not seem to connect to the rest of the content. Below we are discussing how Lera can sequence her slides and thus her lesson.

- 1 Lera:** I jumped it; I didn't really make them read what was expected of them. Was I supposed to show them this before?
- 2 Soraya:** Ok, so you, you should...ok. So you're going to start with the objectives first because you need to explain why you are doing something. So you're going to say 'Today we're going to do...we're going to look at the reactions of non-metals with oxygen' and then you say why we're going to do it.
- 3 Lera:** ok
- 4 Soraya:** Ok, 'Which specific aspects are you looking at?' You are going to look at Naming compounds, Word equations, Chemical equations, symbolic equations and picture equations. You need to say why you are going to do that. Why do they [the learners] need to know this. Ok.
- 5 Soraya:** And then the key questions, 'What happens when a non-metal and oxygen react?' So then here [pointing to the slide on the laptop] you need to show the link. And say, 'What happens when a non-metal reacts with oxygen' to show that there is a connection with this. [Soraya types the key question as 'What happens when a non-metal reacts with oxygen' as a heading on the next slide].
- 6 Lera:** Ohhhhhh.
- 7 Soraya:** And you are going to go down all of these [pointing to the key questions]. So what is the product called? Right. So when you are moving from that [pointing to the list of key questions] your key questions to your explanations, you've got to link it and the way to link it is to use the exact same wording so now I know that in my next slide that I am actually taking that point there...so logically then my next slide is going to be on this point here [pointing to the next key question].
- 8 Lera:** So the key questions should also relate with the objectives?
- 9 Soraya:** Yes, ok, otherwise you are starting too far [and learners can't make links between the lesson objectives and key questions]

Figure 5.12: Lera and Soraya discussing the sequence of the PowerPoint slides

At the start of the discussion, I asked Lera whether she followed the order of the slides and Lera's response to whether she started the lesson at the first slide was, "I

jumped it; I didn't really make them read what was expected of them. Was I supposed to show them this before?". Skipping the introductory slides could be related to her anxiety around time management and completing the lesson within 45 minutes. My response "Ok, so you, you should...ok" is fragmented because I was thinking about the TP1 supervisor assessing the lesson and how he would have interpreted that omission. My position as "knowledgeable insider" allowed me to understand how the TP1 supervisor, watching her pass over the introductory slides would view her decision. My suggestion was that she start with the objectives to orient the learners to the topic and take a conversational tone "Today we're going to do...we're going to look at the reactions of non-metals with oxygen' and then you say why we're going to do it". Next, I am advising that Lera introduce the types of equations such as word equations and chemical equations saying "You need to say why you are going to do that. Why do they [the learners] need to know this. Ok". I am trying to show Lera how the different aspects of the lesson plan worked together and how this sequence had to be reflected in the PowerPoint presentation. Lera's question towards the end of the conversation in Figure 5.12, "So, the key questions should also relate with the objectives?" shows her growing awareness that the different aspects of the lesson plan should be linked in the PowerPoint presentation. However, what I realised later, after some thought on the relationship between the lesson plan and the PowerPoint presentation was that there were different logical sequences operating in each text. The layout of the lesson plan was a means to check that the lesson had the specified components, whereas the PowerPoint needed to show a sequential and logical progression with clear objectives and links between parts of the content so the learners could understand the lesson. Thus, though the PowerPoint was based on the lesson plan, it needed to have a different layout and sequence. This was a realisation I made after our discussion and only implemented in later sessions with Lera where I suggested that she include definitions and explain processes and calculations using a step-by-step method.

Both the lesson plan and PowerPoint presentation are texts that require a substantial amount of intertextuality and creating each of these texts rely on a student teacher's ability to sort, extract and collate information from a number of sources. For example, when creating a lesson plan, a student must first select the appropriate content at the appropriate level for the grade. Secondly, the student has to decide how to make

the lesson interactive and engaging often in schools without resources such as a functional science laboratory and textbooks. Thirdly, of the information the student has chosen for the lesson plan, what information will go on the PowerPoint slide, given that the slide should not contain too much information? Often a student teacher has to prepare lessons in a short amount of time and by the time they find the content, select and organise it into a lesson plan they often had very little time to create a PowerPoint presentation. Once they created the PowerPoint presentation there was often no time to rehearse or review it so that the student could teach the lesson confidently. This type of knowledge about the importance of how to select content as well the preparation and rehearsal time is hidden in the actual experience of creating and presenting a PowerPoint presentation to a live audience and are experiences that many students do have access to before they enter university.

Scaffolding multimedia in the PowerPoint presentation

Though the focus on the PowerPoint presentation was on the written content previously, scaffolding the PowerPoint presentation also involved multiliteracies and included scaffolding the placement and use of multimedia such as a video in the presentation and thus in the sequence of the lesson. Lera used a video demonstrating oxygen reacting with non-metals in her PowerPoint presentation to substitute experiential learning after the physical science mentor teacher told her to skip over the practical experiments because the school did not have a functional science laboratory. Inserting a video was Lera's way of finding a middle ground between omitting the practical experiment because there was no laboratory and still providing learners with access to learning through a video of the experiment. Though Lera is agentic by finding the video, the TP1 supervisor critiques her placement of the video in the lesson sequence. Lera recalled:

He [the TP1 supervisor] was like no, I [Lera] still had time to show the videos while explaining, I should always try and include the videos not um... show the videos after I've explained. So, I think with the second one [crit lesson] even though I told him I had videos it's just that I didn't have time to show them and he was saying that I am too fast, even though I tried not to be but then he was saying that I was still too fast. Cause he did say during my first crit [lesson] that I

should slow down. So even in the second crit [lesson], he was saying that I was still fast...

(Extract 5.12. Lera, discussion on video placement in PowerPoint presentation, Grade 9 “Reactions of Non-metals with Oxygen”)

The TP1 supervisor critiqued the fact that Lera showed a video related to practical application of the content at the end of the lesson in the first crit lesson, telling her that she should not “show the videos after” or at the end of the lesson. Though this was appropriate advice, he did not show Lera exactly where in the lesson the video had to be placed to be valuable for learning, arguably following what Gibbons (2009) would call a progressive pedagogy focussing on telling the student where the error was but not how to correct it. Delinking from the progressive approach to learning I drew on the social practice and sociocultural approach to literacies and multiliteracies pedagogy, since Lera required scaffolding so that she did not repeat the same error in the second teaching practice (TP2). Before discussing the video placement in the PowerPoint presentation, I asked Lera to show me the video as I wanted to see whether it was appropriate as a learning tool. The video was very short around four seconds and showed a 15cm long clear sealed test tube with some dark material at the bottom being heated over a small open flame. The material turned from black to orange with the heat and then turned grey. I had to ask Lera what I was looking at and she explained that the video showed a demonstration of a non-metal in the form of black coal reacting while heated to oxygen in the sealed test tube. I viewed the video thrice and watched it very closely before I could understand what I was viewing. I said to Lera, “This is happening very fast, you need to explain it before it starts” to which Lera replied, “Before the video starts?”. Not only was Lera’s video placed incorrectly at the end of the PowerPoint and at the end of the lesson but it also moved too quickly for learners to comprehend and she did not explain to learners what they should be looking at in the four second video demonstration. I suggested to her “You need to frame the video” and Lera’s answer was “How do I frame it?” to which I replied “You gotta make it conversational as if you are talking, so you say, ‘Let’s watch this video to show carbon reacting’”. My other suggestions included slowing the four second video down by stopping and explaining each stage of the demonstration which was happening very quickly. The exchange below reveals how Lera and I work together to construct an introduction to the video and how I model the way Lera needs to introduce multimedia in future lessons:

Soraya: You have to slow it down and say ‘This is coal in here being heated. This is oxygen [pointing on the screen to the sealed test tube]. And then you’re going to say ‘After the coal is heated, see what happens. And this colour here...

Lera: The orange colour shows that carbon is reacting with oxygen.

Soraya: Ok, so the carbon is reacting with the oxygen and then...ok, in the video, you’ve got to explain and slow down the video...you are explaining each step that is happening.

(Extract 5.13. Scaffolding a video of an experiment for learners, Grade 9 “Reactions of Non-metals with Oxygen”)

I am explaining to Lera how to introduce the video, when to slow it down and how to guide the learners on what they need to focus on and observe. Together Lera and I are also co-constructing knowledge, showing how my multiliteracies and pedagogical knowledge works with Lera’s disciplinary knowledge, when I said to Lera “And then you’re going to say, ‘after the coal is heated, see what happens”. And this colour here...” I pause here as I reach a boundary in my role as knowledgeable insider and I both rely on and trust that Lera’s disciplinary knowledge will provide the information needed to complete the exchange. In the pause we switch roles as I am in the role of student and Lera is in the role of knowledgeable insider with science knowledge and Lera completes the explanation by adding, “The orange colour shows that carbon is reacting with oxygen” which I repeat. I am scaffolding Lera’s video demonstration by showing Lera how to scaffold the video for the learners while Lera is scaffolding science learning for me. This exchange highlights the importance of trusting in the student’s disciplinary knowledge, using the student’s knowledge as a resource and also demonstrates how roles can shift during a scaffolding process calling into question the fact that the learning is always on the side of the student. This interaction shows that it is an integrated process especially when the facilitator does not have the content knowledge that the student has.

Next, I explain to Lera how she could generate learner questions from the video to make the video meaningful in the lesson and extend the learning after the learners have watched the video. I said to Lera:

you could say [to the students] ‘What happens when a non-metal and a metal react?’ And then you could have a list of metals and non-metals and how they react. Or you could ask them...’Ok so here is a learner question’, ‘Can you name a few examples? So, in that way, you are interacting with them as well. So, the key question is

'What happens when a non-metal and oxygen [react]'... 'Here is a question for you' [the students], 'Can you name a few non-metals?' You look up and you're making eye contact [with the students], 'How should we write equations [of a non-metal reacting with oxygen?]'

(Extract 5.14. Soraya, on generating learner questions after a video demonstration, Grade 9 "Reactions of Non-metals with Oxygen")

In Extract 5.14, I am scaffolding and modelling how Lera needs to mediate the learning happening after the video by asking the learners questions on what they observed. My ideas for questions are related to one of the key questions in her lesson plan, "What happens when a non-metal and oxygen react?". I suggest related questions to ask the learners such as "Can you name a few non-metals?" and "How should we write equations?". My comment "You look up and you're making eye contact", is a way to help Lera move beyond her anxiety and show confidence in her knowledge. At the end of the academic and multiliteracies session with Lera, I suggested that the other students might be having the same problems as her and suggested that we share our discussion with them. Next, I discuss how Lera and I shared the information on PowerPoint presentations with Zara and Zinzi, as Kagiso and Thabo were not present on that day.

The day after the lengthy academic literacies session described and discussed above on Lera's Grade 9 "Reactions of Non-metals with Oxygen" lesson plan and PowerPoint presentation, the fourth day of the 5-day July holiday workshop, I asked Lera to go to the front of the classroom and summarise our discussion on presentations with Zara and Zinzi, the other students present. Lera got up from where she was seated and stood in front of Zara and Zinzi and said to them "she [Soraya] means I should get used to being in front". The learning principle that I was implementing here was experiential learning. I believed that Lera had to enact standing at the front of a classroom and lead the discussion if she was to gain confidence and overcome her shyness and anxiety. Though Lera did a recap of the points raised in the academic and multiliteracies session, I gave her the notes I made to guide her further. I acted as the scribe, writing down the points on a white board so that Zara and Zinzi could see them. Lera raised points such as the importance of lesson objectives in the lesson plan relating to key questions, how the key questions are answered in the lesson and how the sequence of the key questions must be reflected in the PowerPoint presentation. Lera provided

substantial detail on how to integrate a video into a lesson plan and the corresponding PowerPoint presentation.



Figure 5.13: Lera shares information on PowerPoint presentations and using a video demonstration

In Figure 5.13 above, Lera is standing quite close to the table and the seated students, and she is leaning in toward them. Zinzi's five-year-old son, seen in the bottom right of the image is not looking directly at Lera.

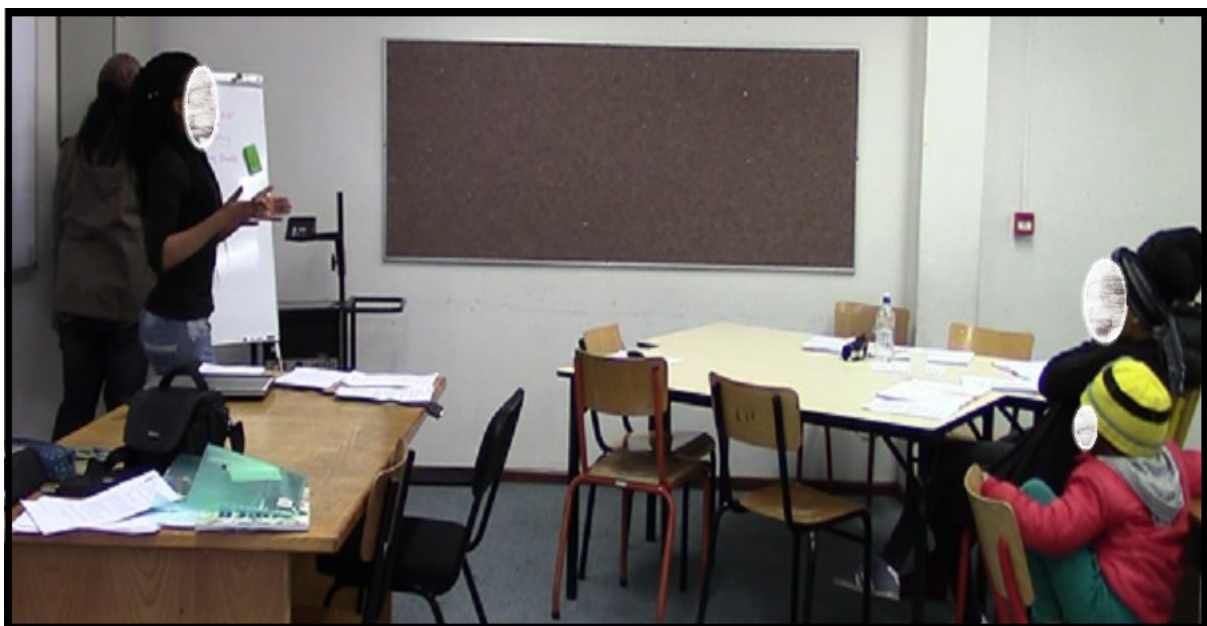


Figure 5.14: Lera moves to the front of the classroom

As Lera became more confident, she moved to the front of the classroom, as seen in Figure 5.14 above. In Figure 5.14 Lera took up a more confident stance and had placed the notebook on the desk, she used gesture and her posture signals confidence with enough authority that Zinzi's five-year-old son turned to face her to listen to what she was saying.

Contingent/ Interactional scaffolding in Lera's Teaching Practice 2

In my discussion above of Lera's TP1, her challenges operated in a cluster that involved the following: Lera's relative under-preparedness, that was exacerbated by the lack of resources in the school context, a relatively uninvolved science mentor teacher and a TP1 supervisor who provided minimal feedback and minimal support. In Lera's second teaching practice, she was teaching at a well-resourced school. She also worked with a different TP2 supervisor who gave her detailed feedback and encouragement and Lera herself was more confident and had a better understanding of what it meant to teach. A portion of Lera's lesson plan, from geography in Figure 5.15 below shows a different layout and specified time allocations as well as clear corresponding learning activities. The lesson plan structure was sourced from Zara after Lera saw Zara's lesson plan structure and wanted to apply that structure to her own content areas.

to allow Lera to teach so that she could be assessed by the TP2 supervisor that Lera was allowed to teach other physical science classes. The topic of the TP2 “Crit” lesson was assigned by the physical science mentor teacher and was particularly difficult since it was based on a composite equation, the individual parts of which had to be calculated first and then reconstituted to determine the answer. In the academic literacies session in which we prepared for the crit lesson, I switched between academic literacies facilitator and novice science learner whilst Lera switched between academic literacies novice and science teacher.

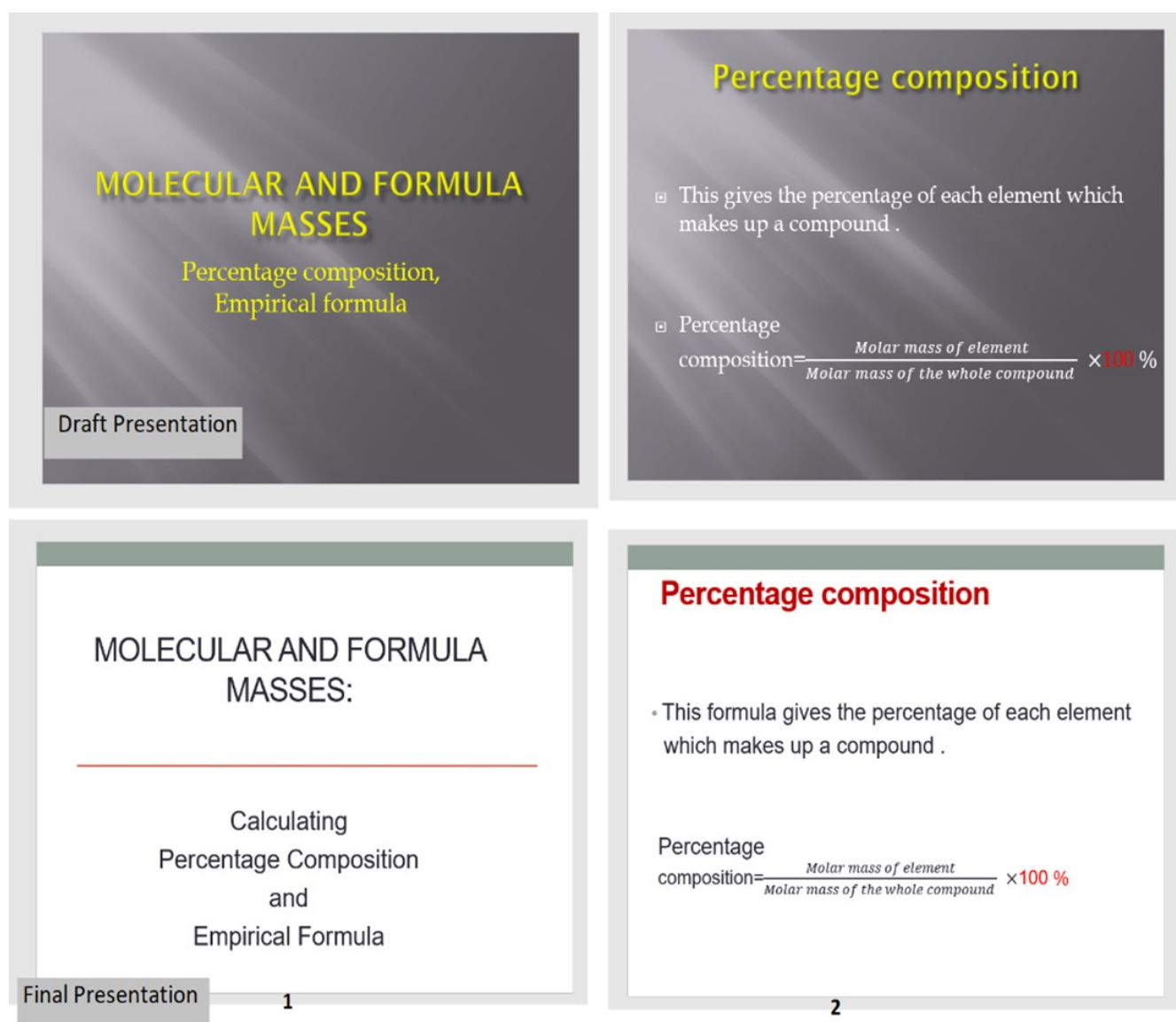


Figure 5.16: Lera’s draft and final presentations

As part of our continuing work to improve her PowerPoint slides, I suggested that Lera move from using designs like that of the draft presentation in Figure 5.16, to

using light-coloured simple backgrounds, stressing that readability was more important than a fancy design. The wording was also changed in the subtitle from “Percentage Composition and Empirical Formula” in the draft presentation to “Calculating Percentage Composition and Empirical Formula”. On slide 2 seen in Figure 5.16 above, the first bullet point on the draft presentation was changed from “This gives the percentage of each element which makes up a compound” to “This formula gives the percentage of each element which makes up a compound”. These small changes increased the lexical density of the sentences by including more discursual language.

Another suggestion I made was that Lera introduce the learning content and explain to the students why they were learning the content. Figure 5.17 below, slide 2, is a slide that we created with this kind of explanation.

<p style="text-align: center;">MOLECULAR AND FORMULA MASSES:</p> <hr style="width: 50%; margin: 10px auto;"/> <p style="text-align: center;">Calculating Percentage Composition and Empirical Formula</p> <p style="text-align: center;">1</p>	<p style="text-align: center; color: #C00000;">When do we use percentage composition and empirical formula?</p> <ul style="list-style-type: none"> • Real life example: A chemist in the lab sometimes has to determine the formula by using the masses of the atoms in the compound or the percentage mass of each element in the compound. Sulphur is toxic to humans in large amounts, but a small amount is used to preserve dried fruit and wine. • Sample assessment questions: <ol style="list-style-type: none"> 1. Calculate the empirical formula for a given substance from percentage composition 2. Calculate the molecular formula using the empirical formula <p style="text-align: center;">2</p>
--	--

Figure 5.17: Linking percentage composition to its practical application

The progress Lera made during 2016 and the amount of work she had put into mastering the creation of lesson plans and PowerPoint presentations, is partly demonstrated by a geography special project class assignment where she had to find an innovative teaching method and present it to the lecturer and fellow student teachers at university in the PGCE geography methods class. Lera’s presentation

and the report accompanying the presentation was an assessed task and shows her development in finding innovative ways to present lesson content. Lera, acting independently had found an online mobile application called Kahoot that creates online quizzes. The Kahoot application allowed the teacher to construct a quiz online which allowed the learners to answer the quiz using mobile devices like mobile phones and tablets. Lera selected the content and created the quiz questions herself. She also did a search and found a YouTube video to demonstrate how the application worked. The literacy work started with Lera and I working together to craft a general explanation of the application and what Lera as a teacher was trying to accomplish pedagogically with the use of the application. I played the role of the novice learner while Lera explained the technology and demonstrated how the quiz worked. I had to mediate the pedagogy around how Lera presented her use of the application in her methods class to fellow students and the lecturer. This involved going through each step from going to the website to download the application to writing the actions step by step that the teacher and learners had to take to use the quiz successfully, as well as integrating the video in Lera's PowerPoint demonstration. Figure 5.18 below shows both the instructions to use the application and the introductory slides on the left.

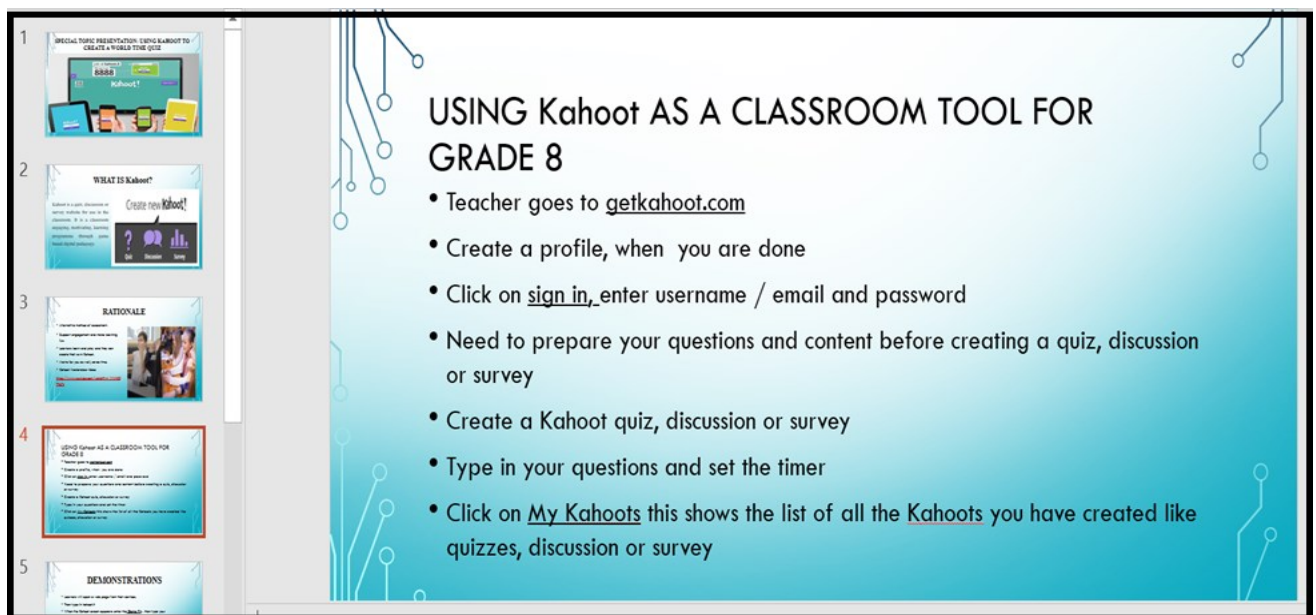


Figure 5.18: Using Kahoot

Though Lera was agentic and engaged enough to find an application that allowed for the use of mobile phones in the classroom and the use of new technology, I also have to acknowledge that the use of electronic equipment meant that Lera was in actual fact designing pedagogy for an elite school similar to the one she did practice teaching at, in TP2. Kahoot would not work at the low resourced school where Lera did TP1 because only a small number of learners would have mobile phones and the mobile phones may not support an application like an online quiz.

To end the chapter, I discuss Lera's reflection on her learning at the end of 2016. I wanted to discover whether the integrated scaffolding process that contained both designed-in and contingent scaffolding was productive for her.

Soraya: I want to know if you think what we have done has helped with the other essays as well.

Lera: Since when we go to you with our drafts for consultation, that's when everything makes sense after consultation. Ok, even when we discuss it, I'll be like 'ok I'm still on the right track'. And then I'll go back. Still, you make me see more, sense of it. But if it wasn't that, imagine if I would be, maybe if you wouldn't make us have those discussions, consultations, presentations.

(Extract 5.13. Soraya and Lera on the Academic literacies sessions in 2016)

Lera's words "when we go to you with our drafts for consultation, that's when everything makes sense after consultation" and words "ok I'm still on the right track" show how discussions around texts can benefit at risk students. Her words also reveal a sense of coercion "maybe if you wouldn't make us have those discussions, consultations, presentations", I understand this sense of coercion as students often experienced resistance in the early stages of academic literacies sessions. Though the students were volunteers to the research, as science students working independently, they probably questioned the process which had to be tacitly negotiated as they could not see the value of the sessions in the early stages of our interaction. In the beginning, the academic and multiliteracies sessions were perceived as a process that seemed to involve a lot of extra time and work, but which ultimately proved beneficial.

Lera also revealed that there was a shift in her approach to reading from seeing it as something she disliked “I don’t like reading” because it was difficult to understand, to acknowledging that reading could provide useful information. Lera said:

There is also change because it actually, made me, not hate reading. So now I’ve noticed that it’s in those readings that you don’t want to read. That’s where the work is, in the introduction. And also, by having to read those pack of readings, it gives me an understanding of, oh ok, when they say this, they mean this. So, with my other thingy, my other assignments, it also helped me with reading, ...but it’s hard *yoh* (gosh) [laughter].

(Extract 5.14. Lera on the challenges and benefits of reading)

Lera’s development as a writer and as a student teacher is demonstrated in this extract of her Teaching Portfolio assignment where PGCE students had to analyse and compare their first (TP1) and second (TP2) experiences to demonstrate and reflect on their areas of development. Unlike the content of the TP1 journal, where Lera was overwhelmed, after TP2 she showed a greater awareness of her progress which is revealed in Extract 5.15 from her Teaching Portfolio assignment where she reflects on her learning and development around lesson planning. Lera wrote:

At the start of teaching practice¹ I came in as a beginner teacher who had no experience, but I had theoretical knowledge of teaching and learning from my PGCE programme. In my first teaching practice, lesson planning was my weak point. Most of the lessons were not well planned, as they had no clear illustration of teacher strategies and learning activities. For example, I did not consider what activities I will do with the learners in order to reach the lesson objectives. Also, I did not include how I will ensure a balance between teacher talk and learners’ activities. Equally important, there was no time allocation for each teacher strategy and learning activities. With this unclear structure I struggled to have a successful lesson as I also lacked the basic understanding of pedagogic strategies that were useful. For instance, in the TP1 lesson plan I have two activities listed “Activity 1 (carbon reacting with oxygen) and Activity 2 (sulphur reacting with oxygen) and I did not indicate or have time allocated for each teacher strategy and the learning activities. The effect of no time allocation for activities was that I could not get through the content as planned.

(Extract 5.15. Lera reflects on her growth in her Teaching Portfolio assignment)

In Extract 5.15, Lera acknowledges her awareness of her development, the lessons such as time management which she had to learn as well as how to integrate the different aspects of a lesson plan template so that it worked in the classroom context. Her growth and confidence is evident in Lera's use of the past tense in referring to herself as a beginner teacher: "I came in as a beginner teacher who had no experience..." and her personal insights are evidenced by her frequent use of the first-person pronoun "I". Her pronouns also demonstrate a sense of agency, and a belief that the decisions she makes in lesson planning will shape the learning that takes place: "the effect of no time allocation...was that I could not get through the content".

Conclusion

In this chapter, I described and discussed the academic and multiliteracies literacies practices that I implemented to support traditional student writing in the form of an essay as well as the professional genres in the PGCE programme. I described and analysed my use of an integrated scaffolding approach (Gibbons, 2009) to academic and multiliteracies which entails both designed-in practices and contingent/ interactional practices without prior planning when there is a need for it. I divided this chapter into two parts and in Part One of the chapter I focused on the academic literacies practices of the Classroom Discourse essay and offer the academic literacies practices and my interaction with the student Lera as an example of how academic literacies support can be designed. I chose the academic literacies practices around the Classroom Discourse essay because it constituted a complete cycle of what scaffolded academic literacies support for a particular piece of writing, an academic essay, could entail. The designed aspects included essay preparation workshops, which included academic reading, followed by transcript analysis, working with multiple texts and producing notes to create a draft essay. The final part of the process was talking with students about their essay drafts and allowing them to become clearer about their argument in one-to-one academic literacies sessions. In Part Two of the chapter, I discussed examples of professional writing, namely Lera's lesson plan and PowerPoint presentation. I discussed how a PowerPoint presentation is shaped by disciplinary demands which may contradict the general

guidelines around the creation of PowerPoint slides in a classroom context. I argue that academic literacies facilitators sometimes need to respond to student texts without having time to design a specific approach. This kind of scaffolding is contingent/ interactional and takes place in the moment (Gibbons, 2009). To demonstrate how texts used in teaching practice are related to each other, I drew on Fairclough's (2010: 420) idea of intertextual chains, and the idea that texts draw content from each other, and are part of people's social practices and social contexts. The academic and multiliteracies sessions on the lesson plans involved a lot of clarification and demystification on both the part of the facilitator, me, and student teacher, Lera. It was a mutual exchange as we shared information and I gained insight into what motivated Lera's choices as a student teacher.

One way in which one-to-one academic literacies sessions could be made more viable, is to train senior students to act as academic literacies tutors whose primary focus is on supporting PGCE academic reading and writing in specific fields. Furthermore, one aspect of the academic literacies scaffolding practices that could have been improved was students introduction to writing as a process. I could have created a more detailed introduction to the academic literacies process of reading, drafting and rewriting essays so that students understood the importance of the process.

The aspects of my practice that were particularly effective was the integration of the academic coursework reading, the group discussions and workshops with the one-to-one academic literacies sessions. The reading activities put the students both physically and literally in touch with their academic learning. Students were able to locate, read and learn the discourse (language in use) and the meta-language of the field of Education and literacies education before starting their academic or essay writing. The workshops and discussion groups allowed time and space for clarification and guidance on aspects of the field and the assignment questions. More importantly, they allowed the students to discuss ideas and share practices. The one-to-one academic literacies sessions provided a space to focus on academic writing in particular and allowed individual students to ask questions around their writing. It also allowed me as facilitator to understand how subject content, for

example, Science content influences academic essay writing in ways that I did not fully understand.

Though the academic and multiliteracies scaffolding both designed-in and contingent/interactional was intense and took hours, it does show that with time and support a student who had failed assessments and for whom the outlook was not favourable could become successful. Given the lack of time, space and resources of disciplinary teaching staff, this type of scaffolding while desirable is not attainable unless there are dedicated persons doing the academic literacies work. From an academic and multiliteracies perspective, every student is significant and from an education perspective, as the Teaching Practice showed, Lera was just one teacher but in a single day during teaching practice, her actions and teaching affected at least 100 learners as she taught different classes and groups of more than 30 learners at a time. One teacher can make a significant difference to a whole group of learners (Comber and Kamler, 2005). In the chapter that follows, I discuss multimodality and using students' languages as a resource for science learning.

Chapter 6: Building student teachers' multimodal and multilingual repertoires

Introduction

In the previous chapter, I examined the ways I supported the PGCE students' academic literacies practices around essay writing as well as the professional literacies practices around creating a lesson plan and a PowerPoint presentation. In this chapter, I analyse the 5-day July holiday workshops that took place from Monday, 11 July to Friday, 15 July 2016. These workshops focussed on building or expanding student repertoires by providing the students with access to multimodal and multilingual practices and different learning sites or spaces. The chapter is divided into two parts. Part One of the chapter takes the form of a short overview of the 5-day workshops. I then focus on and discuss the activities of Day 2 of the workshops, Tuesday 12 July 2016, as an example of designed-in scaffolding to support the students multimodal learning. My analysis of activities one, two and three, of Day 2, explains why I chose the activities and what I wanted the students to learn. Part One answers the second subsidiary research question "How can one support African language speaking students with degrees in science in learning the academic and multimodal practices required in teacher education?". Part two of this chapter, discusses activity 4 of Day 2, a translation exercise, and is an example of Critical Framing and Transformed Practice, which demonstrates how the students' African languages could be used as a resource for science learning. Part Two of this chapter, answers the third subsidiary question "How can student teachers be encouraged to use their African languages as a resource to develop bilingual/translanguaging pedagogy for science teaching in an officially monolingual English education system?".

To answer subsidiary questions two and three, I drew on decolonial theory and delinked from the students' earlier experiences of learning science as a mainly textbook and text-based endeavour. I also drew on Gibbons' (2009) conceptualisation of message abundancy and the amplification of meaning for

bi/multilingual learners learning subject content in English. Unlike the deficit approach to teaching multilingual learners that involves simplifying or ‘dumbing down’ the curriculum, Gibbons (2009) argues that multilingual learners should be offered a high level of support on curriculum content in which the “curriculum is amplified, not simplified” (156). The curriculum is amplified by teachers using “message abundancy” (156) or the practice of offering “similar information in a variety of ways, some of them non-linguistic” (156) for example, through the use of pictures, diagrams, graphs and experiences. Gibbons writes that message abundancy is important for English language (EL) learners or learners with English as an additional language because this allows the learners “more than one opportunity to understand key content” (2009: 156). Gibbons also states that EL learners often remark that teachers speak too fast but “it may not be the speed of a teacher’s speech that is the [only] problem but rather [also] the *speed at which information is given* “(italics in the original) especially when detailed information and/ a lot of information is only given once (2009: 156). The detailed focus on activity 4 of Day 2, the translation exercise, in Part Two of this chapter, is important because I argue that activity 4 is an example of message abundancy where learning happens through the students’ African home languages. It was important to use African languages in a university classroom given the overwhelmingly English monolingual nature of teaching at the university and I argue that in this context, using African languages as a resource for learning is transformative.

Part One: Overview of the 5-day July holiday workshops and activities

The 5-day July holiday workshops were conceptualised after the students struggled with answering Part Two of the Classroom Discourse essay. As discussed in Chapter 5, Part Two of the Classroom Discourse essay asked students to: “Provide two concrete examples of how you integrated or could integrate reading and writing activities into the lesson you analysed and how you would scaffold such activities so as to purposefully develop learners’ reading and writing competence and improve learning” (Classroom Discourse Essay assignment question). Though Lera had earned 64% for the Classroom Discourse essay, when she answered Part Two of the question and wrote that she would show learners “how to use subject specific

discourse” (Lera, Classroom Discourse essay, Part Two), the assessor had written the following comment “How will you teach the language of science?”. I considered Lemke’s (2004) view that the language of science cannot be separated from doing science and that as an academic literacies facilitator working with students who would become science teachers, I had to integrate the modes of science with reading and writing. The workshops took place in the last week of the July winter holiday because the students had very full timetables and Teaching Practice 2 commenced after the July winter holiday so the workshops could serve as a period of preparation and practice. The five students agreed that they would attend a 5-day (Mon 11 July to Friday 15 July) series of workshops from 10am to 12pm with visits to the Science Centre on Tuesday 12 July and Wednesday 13 July, and a visit to the South African Natural History Museum on Friday 15 July. Since I cannot analyse each of the 5-day July holiday workshops due to the limitations of space, I provide a table below, Figure 6.1., of the content of each day before I hone in on Day 2 of the workshops. Figure 6.1. below is the same table referred to in Chapter 3, the Research Design and Methodology chapter.

5-day July Holiday Workshop (11-15 July 2016 – Time spent, 990 mins or 16.5hours)

Date	Activity	Content	PhD Chapter	Attended	Time
11 July, Monday	Workshop	*Focus on academic reading and writing using Ernest Morrell's (2008) <i>Critical Literacy and Urban Youth</i> , 2 nd Chapter "From Plato to Poststructuralism" focussing on Introduction, sub-headings and argument structure and conclusion		Lera, Zinzi, Zara, Thabo and Kagiso	10am – 12pm (120 mins)
12 July, Tuesday	Workshop and Science Centre visit	*Focus on multimodality and multiliteracies. Interactive and experiential learning, brainteaser, science experiments on circuits and electromagnets, report writing and using multilingualism as a resource. *Science Centre visit and worksheet	Chapter 6	Lera, Zinzi, Zara, Thabo and Kagiso	10am – 12pm and 1- 2:30pm (120 + 90 =210 mins)
13 July, Wednesday	Workshop and Science Centre visit	*Focus on Derewianka (1990) "How texts work", differences between discussion and argument genres and discussion on Site visit worksheet *Visit to the Science Centre, visible light and Camera Obscura experience.	Extracts in Chapter 6, Part Two and Chapter 7	Lera, Zinzi, Zara and Thabo	10am – 12pm and 1- 2:30pm (120 + 90 =210 mins)
	Lera Lesson Plan AcLits session	Scaffolding a Lesson Plan and PowerPoint presentation, AcLits session on Grade 9 Science "Reactions of Non-Metals with Oxygen"	Chapter 5, Part Two	Lera	5-7pm (120 mins)
14 July, Thursday	Workshop and Book Review	*Focus on lesson plan and PowerPoint presentations with Lera playing the role of facilitator *Focus on book review, examining model texts, talking through Lera, Zinzi and Zara's book choices and opinions on the books	Extracts in Chapter 5, Part Two	Lera, Zinzi, Zara,	10am – 12pm (120 mins)
15 July, Friday	Workshop TP Journals and SA Natural History Museum visit	*Focus on the Long Essay, discussing "What is knowledge" one of the options in the essay question. *Zinzi and Thabo request a revision session on lesson planning and using a video in a PowerPoint presentation -Visit to the SA Natural History Museum	Extracts in Chapter 7, SA Natural History Museum site visit only	Lera, Zinzi, Zara and Thabo	10am – 12pm and 1- 2:30pm (120 + 90 =210 mins)

Figure 6.1. The activities of the 5-day July holiday workshops (See Appendix D for a larger version of this table)

Drawing on Gibbons' (2009) conceptualisation of message abundance and the "amplification of meaning," I wanted to balance reading and writing practices with cooperative learning activities over the five days offering learning through visual and experiential modes and this meant that some days I focussed on texts and on other days I focussed on experiential activities. Day 1 was a very text-based day and a day which I consider unproductive because after explaining that we were going to use a book chapter as a model text to learn how the author constructed his argument, I led the students through a chapter from critical educator Ernest Morrell (2015) which explains critical philosophy from Plato to Postmodernism. I chose this book chapter because I wanted to provide students with a history of critical points of view. My field notes reveal "I did most of the facilitating with students asking a few questions" and include the reflection that "The text was too difficult and hard to relate to" and "I felt

that I should have given the students a writing exercise”. I realised that the book chapter was not directly related to the PGCE programme or learning and teaching science. It was also too complex, more suited to more advanced postgraduates and long for a model text. My perspective is that this day was more about learning what a facilitator should not do and which aspects I should improve. Day 1 also involved preparing for the practical experiments on Day 2 and the students and I paged through Miles Kelly’s book *Super Science Experiments* (2014) to determine which experiments we should perform the next day. Kagiso and Lera suggested that we do experiments related to the school curriculum that the students would cover in teaching practice 2. I wanted to show students how some experiments could be done with simple materials brought from home and asked students to look at the materials required and volunteer to bring something if they had it at home. After the students had chosen materials to contribute, I noted what was still required so that I could bring those materials.

Day 2: The five activities used to build a multiliteracies repertoire

Day 2, Tuesday 12 July 2016 is an example of designing and engaging in multimodal and multilingual practices because the day consisted of five activities that were related to each other. The five activities were an: 1) introductory game, 2) performing two science experiments; 3) writing a report on the experiments; 4) translating a scientific term from the experiment and 5) visiting the Science Centre. Figure 6.2 below is a composite of all five activities the students engaged in on Day 2.

Day 2 of 5 (Tuesday 12 July 2016) - The five activities of a multimodal academic literacies workshop for science student teachers

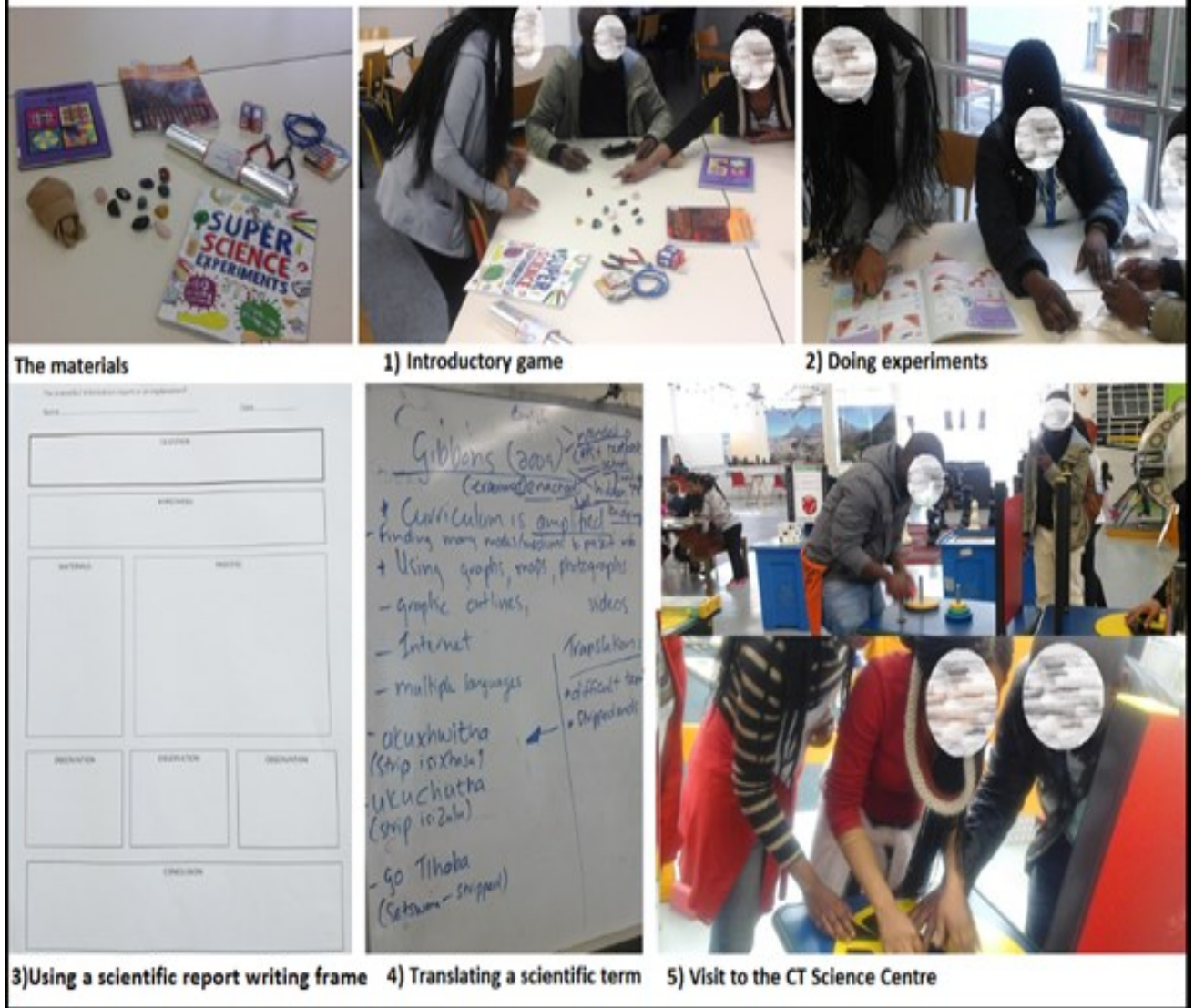


Figure 6.2: Multimodal and multilingual activities on Day 2, Tuesday, 12 July 2016

Day 2: Activity 1 of 5: The brainteaser

In the image on the top left corner of Figure 6.2, I show the materials the students and I assembled to prepare for the activities on Day 2. The next image, number one of Figure 6.2 shows the students engaged in Activity 1 which consisted of an introductory game or brainteaser. The aim of the game was for students to reverse the shape of the triangle by following these instructions “By moving only three stones, reverse the pattern. In other words, there should be four stones on the right

of the drawing” (Rooth, 1995: 59). I chose this activity because it seemed like an engaging way to start the workshop as it involved thinking, action, discussion without assessment and the materials (10 stones) were relatively easy to find and transport should the students decide to replicate the game during teaching practice. This activity produced much discussion and allowed the students to learn through play and try different configurations of stones. After scrambling the stones, the students reassembled the stones into a triangle and finally Zara moved the stones correctly and solved the problem.



Figure 6.3: Activity 1 of 5, the brainteaser on Day 2 of 5

Day 2: Activity 2 of 5: The science experiments

Image 2 on Figure 6.2 shows students engaged in Activity 2, which involved recreating two science experiments, a simple electric circuit to light a bulb and creating an electromagnet. The aim of Activity 2 was to help students plan and execute two practical experiments. We chose two experiments because the students were between the two extremes of having mainly text-based science when they were at school (little to no practical science) and doing undergraduate university laboratory work (complex experiments with sometimes hazardous materials). As teachers of Grades 10 to 12 science they needed a mid-point between these two experiences. There was some laughter as Kagiso had to bring two aluminium cans for the

electromagnet experiment and he had brought two empty beer cans which elicited some discussion on where he found them. The electromagnet experiment went well and worked. However, Experiment 2 where students created a simple electric circuit didn't work because the voltage of the light bulbs and the batteries I had brought did not match. Figure 6.4 below shows the students working on the experiments.



Figure 6.4: Activity 2 of 5, multimodal and experiential activities in science. See Appendix P for a larger versions of these images

Researching factors that influence the quality of practical work in science classrooms, Hattingh, Aldous and Rogan (2007) refer to the table below on the levels of complexity of practical work teachers and learners engage in.

Table 1: Four levels of complexity in science practical work: A classification framework

Level	Types of science practical work
1	<ul style="list-style-type: none">➤ Teacher uses classroom demonstrations to help develop concepts.➤ Teacher uses specimens found in the local environment to illustrate lessons.
2	<ul style="list-style-type: none">➤ Teacher uses demonstrations to promote some form of learner inquiry.➤ Some learners assist in planning and performing the demonstrations. Learners participate in closed (cook-book) practical work.➤ Learners communicate data using graphs and tables.
3	<ul style="list-style-type: none">➤ Teacher designs practical work in such a way as to encourage learner discovery of information.➤ Learners perform guided discovery type practical work in small groups engaging in hands-on activities.➤ Learners can write a scientific report in which they can justify their conclusions based on the data collected.
4	<ul style="list-style-type: none">➤ Learners design and do their own 'open-ended' investigations.➤ Learners reflect on the quality of the design and data collected and make improvements when and where necessary.➤ Learner can interpret data in support of competing theories or explanations.

Figure 6.5: Table 1 in Hattingh, Aldous and Rogan (2007: 77) levels of complexity of practical work

In Science the most valued type of science practical work from a constructivist view is level 4, which Hattingh, Aldous and Rogan's (2007: 79) research found to be "the least frequent of the practices, where learners have to design and execute their own investigations and verify the accuracy of their data". According to the table in Figure 6.5, the PGCE students were engaging in level 2 science practical work where "Some learners assist in planning and performing the demonstrations. Learners participate in closed (cook-book) practical work" (77). Though basic, I wanted the students to experience collecting materials and engaging with apparatus and learn from working with apparatus in a fairly uncomplicated way as we were in a classroom not a science laboratory and were using materials sourced from home. I learned from the students after Kagiso and Lera pointed out my mistake that the battery does not have enough voltage to power the lightbulb. However, it was the failure of the electric circuit experiment that elicited discussion and different types of problem-solving behaviour such as adding another battery or re-arranging the

aluminium foil. We also discussed how to react in a classroom context when experiments did not work and Lera pointed out the importance of practicing the experiment first before demonstrating it or before learners attempted the experiment in the classroom. Though the experiments were basic, they did have value allowing the students to understand the preparation and mechanics of doing science experiments in a classroom context.

Day 2: Activity 3 of 5: Using a scientific report writing frame

As image 3 on Figure 6.2 shows, directly after the experiments the students used a writing frame to guide them through writing a scientific report. I wanted the students to get the sense of immediacy and logical connection between the practical experiment and report writing as a school learner would experience it. This seemed like a fairly mechanical process and allowed me to realise that most written reports at school level mainly involve recall but not detailed analysis. Perhaps what I could also have done was to ask the students to write the experiment in a lesson plan or do the experiment as a demonstration though this is also considered a limited form of scientific practice. While Hattingh, Aldous and Rogan's (2007) study shows that demonstrations are most often used by teachers with few resources available who teach large numbers of learners, I would argue that Activity 2 (the experiments) and Activity 3 (science report) could be regarded as initial steps toward scaffolding enquiry-based scientific practice.

The Scientific/ Information report or an explanation?
 Name..... Date:.....

QUESTION

HYPOTHESIS

MATERIALS: PROCESS:

OBSERVATION OBSERVATION OBSERVATION

CONCLUSION

Figure 6.6: Activity 3 of 5, using a Scientific report writing frame

Part Two: Day 2: Activity 4 of 5: Using multilingualism as a resource

Activity 4 aimed to explore how to use the students' African languages in science learning through the translation of an English term into African languages. This activity was also based on the awareness that the students had already learned about language ideology in their PGCE Language and literacy development in multilingual societies module. The students had received lectures and readings in the form of academic journal articles and book chapters to introduce them to the theory around language ideology, classroom discourse, multilingualism and

translanguaging. But as stated previously, Probyn (2015) notes, while some researchers and scholars acknowledge the use of multiple languages in the classroom, teachers are not systematically and coherently trained to use African languages in the classroom for learning. In an attempt to use a “coherent systematic” approach (Probyn, 2015: 220), to using the students African language resources and English in the classroom, I decided to use a translation exercise. My hope was that this exercise in translation would help the students and I learn more about using African home languages for learning in a way that differed from the rote learning or drill and practice (see Chapter 4) or the English science content/everyday African language translanguaging that characterised the students’ early schooling and undergraduate years. I was apprehensive about experimenting with using multilingualism as a resource, given the negative perception of translanguaging in classrooms by some school principals and most government officials in South African education (Krause and Prinsloo 2016; McKinney and Tyler, 2019). I also thought that the students would be resistant to using translanguaging or moving between languages in content subject areas because the pressure to learn to teach in English was so great. I understood that their resistance might be part of claiming the right to use English since, as I showed in Chapter 4, their English resources were the result of often painful even traumatic individual struggles at school and at university. This exercise on using multilingualism as a resource for science learning is positioned as an example of what Mignolo (2007) would call “border thinking”, discussed in Chapter 2, in the Theoretical Framework, that aimed to understand how to use both English and the students’ African languages in a way that enhanced science learning.

After the students completed writing the report in Activity 3, I started Activity 4 by explaining Gibbons’ (2009) concept of an amplified curriculum and message abundancy as well as the importance of using multiple modes to assist multilingual learners with understanding school content. I drew specific attention to how language could be used to support learning when teachers created a multilingual glossary.

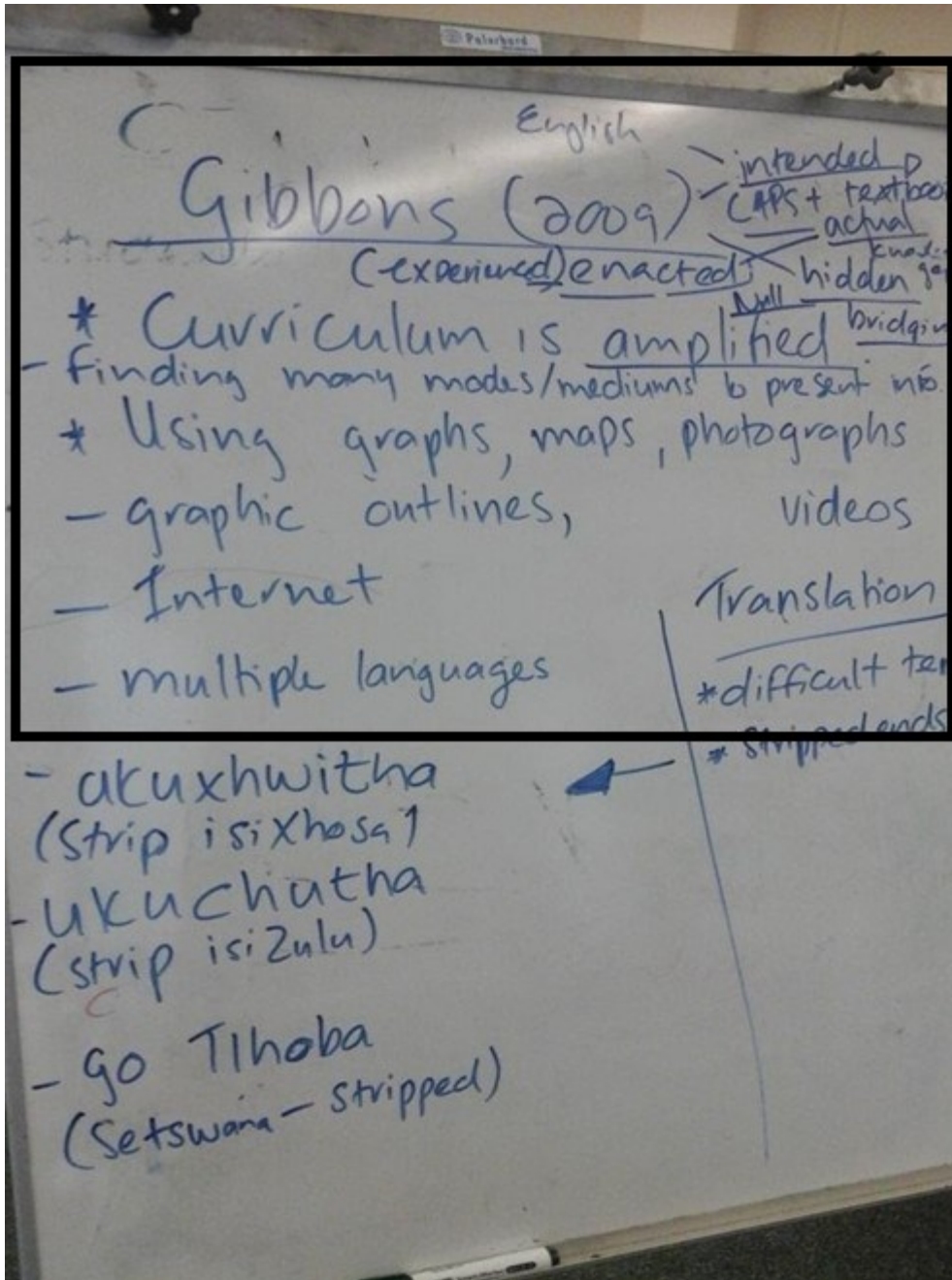


Figure 6.7: Activity 4 of 5, translation and Gibbons (2009) “amplification of meaning”

Decisions around bi/multilingual pedagogy: Selecting the language of translation

In the discussion that follows the students and I refer to the images in the book “Super Science Experiments” by Miles Kelly (2014) shown in Figure 6.8. below and the data extracts are from conversations about the text in the book and which words to select for translation into African languages.

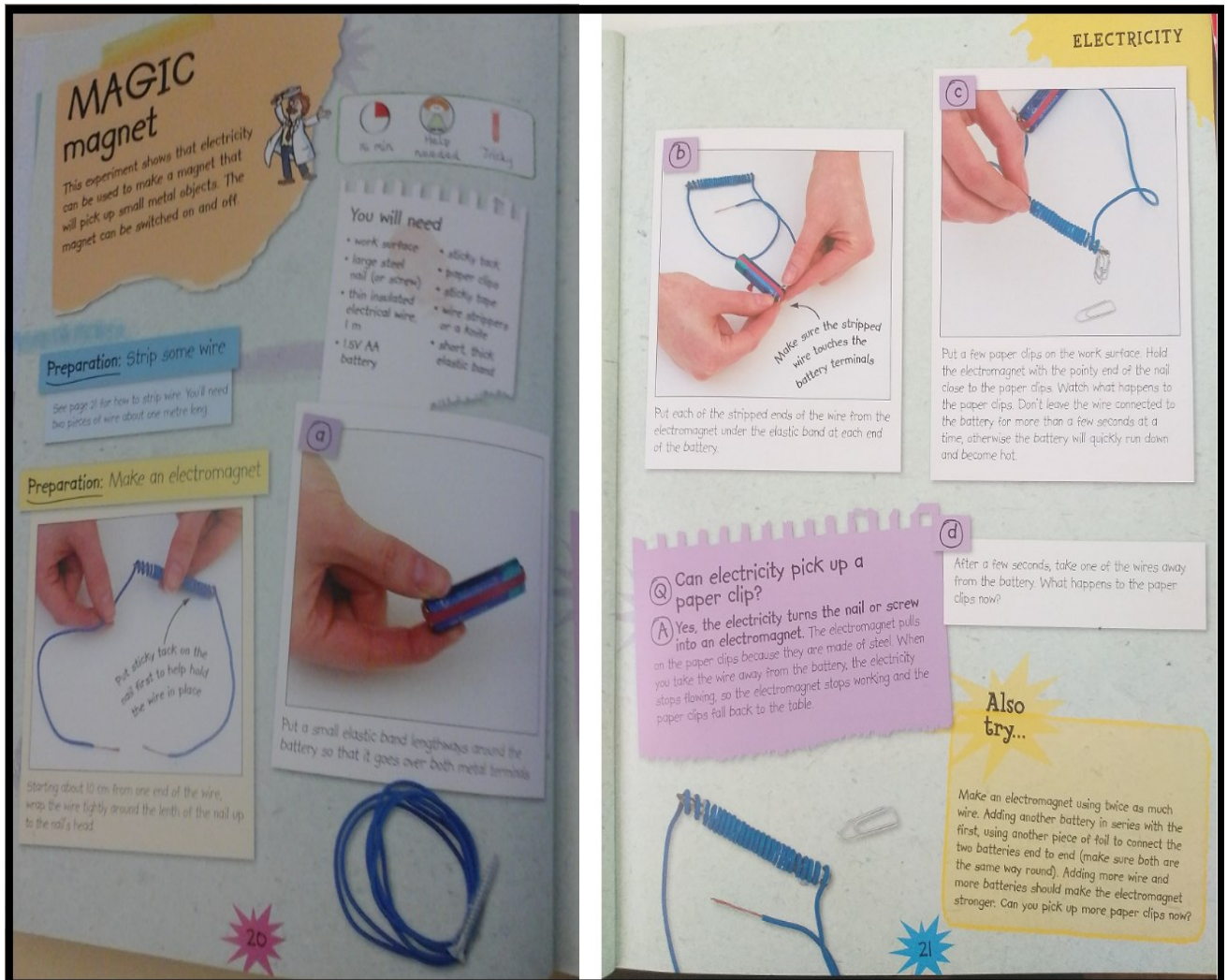


Figure 6.8: Instructions on how to create an electromagnet (Kelly, 2014: 20-21). See Appendices Q and R for larger versions of pages 20 and 21.

I began Activity 4 by asking the students, “If you had to use your mother tongue, which parts [of the experiment] would you translate?”. The students did not answer and when I asked the question again after a brief pause, Zinzi suggested that the experiment would have to be translated into isiXhosa, because there were three isiXhosa students in the group. But Lera had a different opinion and below the students discuss choosing the language of translation, an aspect of translation that my question did not consider but that the students understood and had anticipated because there were three languages between the five students (isiXhosa, isiZulu and Setswana):

Lera: Well, I think though it will depend on which languages the learners have in class. So, you wouldn't just translate maybe you have "Coloured" [Afrikaans speakers] and, Xhosa, so obviously you wouldn't just translate to isiXhosa because then maybe some learners won't understand.

Soraya: Ok, but let's say you have majority, isiXhosa?

Lera: Aaah, obviously isiXhosa if you use isiXhosa, they'll be fine.

Zara: But still maybe you would use a bit of English, simple English and try and translate concepts that they wouldn't understand.

(Extract 6.1: Selecting the language of translation)

The exchange between the students and I in Extract 6.1 made me realise that before translation from English to African home languages can start, the choice of which African language to use for translation is often a complex one, especially for new teachers. Lera said that she would not just launch into a translation but that a teacher should be aware of the languages spoken by the learners. This is because Lera had "Coloured" Afrikaans/Kaaps speakers and isiXhosa speakers in her class and as a result of this linguistic mix, the exclusive use of isiXhosa would not be appropriate because as Lera indicates "some [Afrikaans/Kaaps speaking] learners won't understand". When I amended the example to a class where the majority of the learners were isiXhosa, Lera amended her response by saying then a teacher could translate from English to isiXhosa showing that Lera had learned through her experience during TP1 that language use in the class must correspond to the languages used by the learners. Lera thus surfaces the importance of responding to classroom context and learner languages. Zara then added that teachers would need to use "a bit of English, simple English" and teachers would also need to "try and translate concepts that they [the learners] wouldn't understand". Since assessments are in English, Zara's comments point to the fact that though translanguaging between African languages and English occur in schools, the textbooks and assessments are in monolingual English and therefore it is necessary for both the teacher and learners to maintain a connection with the English terms. However, since there is very little to no training or teacher education supporting bilingualism or translanguaging in learning, if the teacher's understanding of scientific discourse in English is tenuous then both the teacher and learners are struggling to learn science through a poorly learned second language (Probyn 2005: 162).

While translanguaging or moving between languages is important for learning as Probyn (2015) reminds us, there is a need for research on “a coherent systematic approach to using both languages in the classroom in ways designed to enhance opportunities to learn” (2015: 220). The students’ experiences of language and literacies in school, discussed in Chapter 4, showed that in government schools there is variation in the way English and African languages are used by teachers, for example, Lera stated that that “Some teachers it’s either everyday language [in Setswana], or it’s scientific language [in English]. But some, they never switch [to English]so you get confused”. Lera refers to the confusion she experienced when some teachers used Setswana only for teaching school content, but the learners had to write assessments in English. To enable learning, teachers have to as Probyn (2005) argues “smuggle vernacular into the classroom” because the use of African languages in the classrooms are not officially sanctioned by the Department of Education. Further analysis of the transcript will show what happens when I ask the students to translate English words from Miles Kelly’s (2014) book on popular science experiments into their African languages.

Selecting the words to translate

In response to asking the students which words from the experiment they would translate, Zinzi stated “I would translate “stripped ends”. See Figure 6.9 below to see step “b” from Miles Kelly (2014) and the use of the words “stripped ends”.

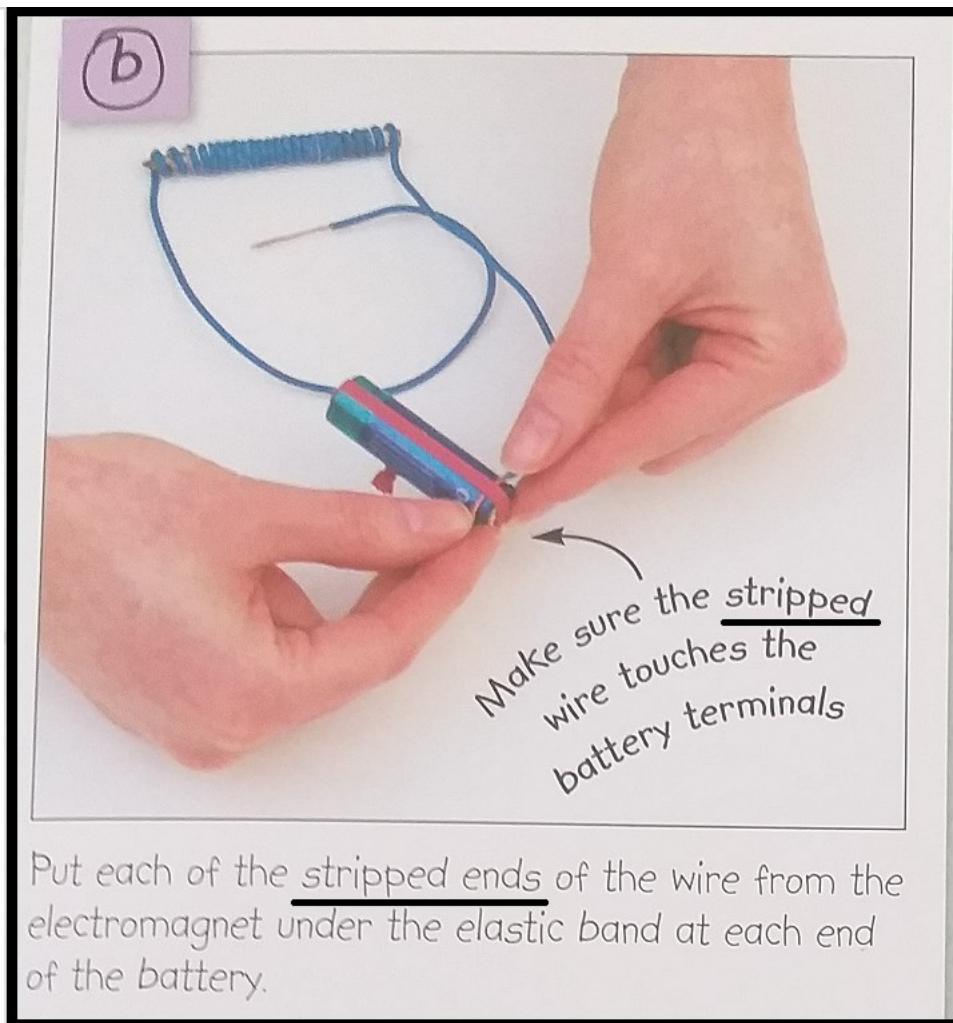


Figure 6.9: Step “b” from Miles Kelly’s (2014) showing the words “stripped ends”

I was surprised, at Zinzi’s choice of “stripped ends” as an example of difficult words, as evidenced in my repetition of the phrase “Stripped ends? Stripped ends, ok” in Figure 6.10. below.

- 1 Zinzi:** I would translate difficult terms.
- 2 Soraya:** Like what for example? Ok let's use, let's use the experiment that worked which was the magnetic one right. Ok, so look at that experiment and then what would you translate? (Giving the book to Zinzi and Zara)
- 3 Zinzi:** I would translate 'stripped ends' (Looking at the experiment in the book).
- 4 Soraya:** Stripped ends? Stripped ends, ok.
- 5 Zinzi:** Especially 'stripped'. What does stripped mean?
- 6 Soraya:** Ok, then what would you, then what would be the isiXhosa equivalent of that?
- 7 Zinzi:** Stripped means '*ichuthiwe*' (it's plucked), *ukuchutha* (to pluck), like this [hand movements miming plucking feathers off a slaughtered chicken] *ewe chutha* (yes pluck), *yisuse* (remove it).
- 8 Zara:** So, you just said, *yisuse* (remove it).
- 9 Kagiso:** Chipped off, stripped is like chipped. *Ukucola* (grind).
- 10 Soraya:** Ok spell that for me...
- 11 Thabo:** *Hayi!* (No!)
- 12 Soraya:** No, you disagree? (Turning to Thabo)
- 13 Zara:** No, *ukucola* (grind) is (hand movements moving her right fist in a twisting motion on the palm of her left hand), you like... grinding.
- 14 Thabo:** *Ukucola* is to grind.
- 15 Zinzi:** *Ukuchutha ngesZulu* (to pluck in Zulu), you understand Zulu? [Pointing at Thabo]
- 16 Zara:** Cause *ngasusa* the feathers (I removed the feathers) [hand movements mimic plucking].
- 17 Zinzi:** Exactly! And in isiZulu, *ukuchutha* (to pluck).
- 18 Soraya:** Ok spell that for me.
- 19 Kagiso:** A...No, u...k (attempting to spell the word '*ukuxhwitha*').
- 20 Zara:** Kagiso is using the BEE spelling.
- 21 Kagiso:** I think I'm the wrong guy...*Ukuxhw...*(to pluc...) yth (say) no, with with...a.
- 22 Soraya:** Ok, what does this mean? [Looking at the students] And what does this mean?
- 23 Zinzi:** Stripped.
- 24 Kagiso:** Stripped ends.
- 25 Soraya:** And this is the isiXhosa.
- 26 Chorus:** Yes [All the students together].
- 27 Soraya:** Now what is the isiZulu word?
- 28 Zinzi:** *U...uku* (to).
- 29 Zinzi:** *Ukuchutha* (to pluck).

Figure 6.10: Selecting the words to translate

Unlike the common assumption made in most textbooks with glossaries, that only the scientific concepts need translation, Zinzi surfaces the meta-language of science experiments. She chooses the action verb 'stripped' as a 'difficult' or unfamiliar word when she says "Especially stripped. What does stripped mean?" Lemke (1998: 2) states that "scientists use specialized languages and use common language in

specialized ways". In this case "stripped" can be both common language and part of the "actional-operational languages" of science or scientific register that formed part of the instructions and actions in the book on how to create an electromagnet (Lemke 1998:5). When I follow Zinzi's answer, with a question "what would be the isiXhosa equivalent of that?" Zinzi, the only isiZulu speaker in the group, answers by saying, "Stripped means 'ichuthiwe' (it's plucked), *ukuchutha* (to pluck), like this (hand movements demonstrating plucking) ewe *ukuchutha* (yes, pluck), *yisuse*" (remove it). I accept Zinzi's response as accurate and it is uncontested by the other students. However, the three isiXhosa speakers in the group of five students, Zara, Kagiso and Thabo, continue to discuss and negotiate the translation of the word 'stripped' into isiXhosa. Kagiso says, "Chipped off, stripped is like chipped. *Ukucola* (to grind)" and while I accept his translation (not being able to speak isiXhosa myself) by saying "Ok spell that for me", both Zara and Thabo object. Thabo says "*Hayi*" (No) while Zara says "No, *ukucola* (to grind) is (making hand movements and moving her right fist in a twisting motion on the palm of her left hand), you like... grinding". Thabo concurs with Zara saying "*Ukucola* is grind" and he offers "*Xhwitha*" (pluck), in isiXhosa instead which Zara concurs with by saying "Cause *ngasusa* the feathers" (I removed the feathers) (hand movements mimic plucking feathers). Zinzi's translation into isiZulu remains uncontested but she points at Thabo and asks him "You understand isiZulu?" It is possible that her question is both for information and a challenge because Thabo objected to Kagiso's answer, and she wanted to determine whether he would challenge her isiZulu translation. The students eventually provided these translations for stripped:

isiXhosa: *ukuxhwitha* (to pluck - isiXhosa)

isiZulu: *ukuchutha* (to pluck - isiZulu)

Setswana: *go tlhoba* (to pluck - Setswana)

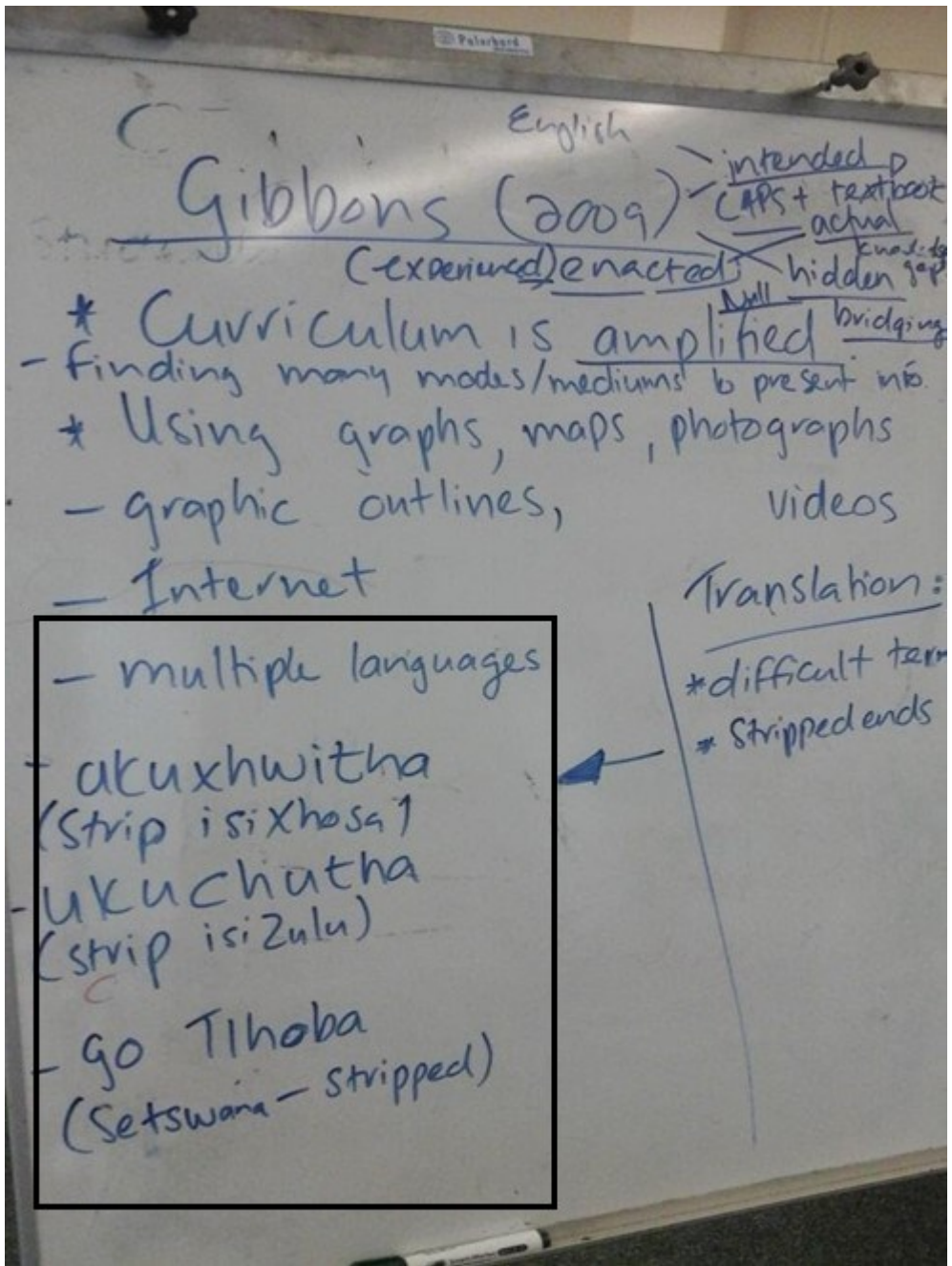


Figure 6.11: Students provide translations for the word “stripped”

At this stage of the discussion, I was unaware that literally translated, the words mean ‘pluck’ most often used in ‘to pluck feathers’, *ukuxhwitha* (to pluck – isiXhosa); *ukuchutha* (to pluck - isiZulu) and *go tlhoba* (to pluck - Setswana). Zara in fact enacts the plucking movement with her hands when she translanguages and says “ngasusa the feathers (I removed the feathers)”. Here there are three significant points to make. Firstly, that students may have difficulty with common words used in

specialized ways (like stripped) or the meta language of science in English (Lemke 1998). Secondly, translation is a negotiated process amongst people who speak the same language and how the translation is received depends on the context. While the translation, of the word “stripped” into “plucked” in African languages may be accepted in the context of a science lesson in a school where translanguaging and translation are daily practices, it may not be accepted if it is written in an assessment marked by a standard English speaker or at a school where monolingual English practices are dominant or in a national examination like the Matric exams⁷. Thirdly, while the use of student languages and translation are good practices, how does the teacher ensure that the answers are correct if the teacher does not speak the languages of all the students?

Understanding the constraints and refining the translation process

Though I tried to model using language as a resource to the students through the pedagogic exercise of translating a scientific term into the students’ home languages, the question remained ‘How does the teacher ensure that the answers are correct if the teacher does not speak the home languages of the students?’ The answer to this question was clarified weeks later, when I asked an isiXhosa speaking colleague to check the students’ translation and she found that the students had translated “stripped” into “to pluck” in their respective African languages. I had to come to terms with this problem and I knew that I would probably not be able to address this aspect of translation again with the students due to the pressure of time and as there were other writing assignments to scaffold. I also had a sense of the difficulty African language speaking teachers experienced when they did not have the training nor the English and isiXhosa language resources to translate scientific words in ways that maintained the scientific meanings. I returned to the literature and found that Dong (2011) had researched the ways different science teachers supported English Language Learners (ELL) or English Second Language (ESL) students in the USA. In one of Dong’s (2011) examples, a biology teacher named

⁷ “Matric” or Matric examinations are the national examinations written in Grade 12 that mark the end of formal schooling in South Africa.

Lisa, taught English Second Language (ESL) or multilingual learners in the US, by using bilingual dictionaries which the students brought to school. Dong's analysis described the biology teacher performing the following steps: during task analysis, the teacher firstly asked a student to look up an English word and read its meaning aloud to the rest of the class. Secondly, she asked all the students to look up the word and its meaning in their bilingual dictionaries. Thirdly, she asked the students to write the word in their home language next to the English word in the textbook. Fourthly, she clarified the meaning of the word in the context of the task or lesson. Dong (2011: 263) noted that the teacher, Lisa, "not only told but modelled for her students how to approach a new word in the reading and how to highlight key concepts for reading comprehension and review".

Extending the practices in Dong's (2011) research

Though the teacher in Dong's (2011) example demonstrates pedagogically how dictionaries and translation can be used to create a glossary in multilingual classrooms and the way this benefits learning, there are other considerations at stake when using language as a resource and delinking from coloniality. In Dong's (2011) example the students were asked to look up the words in their home language and write these next to the English word and while this practice supports individual learning and is an important step, it does not challenge the dominance of English. In writing all the translations on the whiteboard, I was able to reflect the language resources of all the students and having the translations listed below each other on the board allowed the students to read the term in each other's languages. Another aspect of the translation activity was the shift in power dynamics that occurred when the students provided the translation, and I was repositioned as the learner. A third aspect was that Dong's (2011) example and the translation activity the students and I engaged in, allowed a closer look at how science teachers are also language teachers and foregrounded the fact that when teachers and students are translating into their home languages, they are negotiating meanings and understandings as well as words. After the workshop when I was made aware that the translation was incorrect, I used the steps in Dong's example to first look up the English word 'stripped' which means 'to remove a layer' and then asked a multilingual colleague for an English/ African language science dictionary to find the

correct term. The correct version of the word ‘stripped’ in isiXhosa, would be ‘*ukuhlubulula*’ (to remove a layer). Though the students did learn the mechanics of pedagogic translanguaging (Probyn 2019) I was not able to provide feedback to them on checking the meaning of the word first and then finding the correct isiXhosa/isiZulu/Setswana translation.

Including the urban language varieties and moving between varieties

In considering the reality of language use in schools in South Africa and the fact that most learners, especially those in urban schools, do not use standard versions of English and African languages, translating the word “strip” into “*ukuhlubulula*” (to remove a layer in isiXhosa) would not make sense to learners without giving the learners access to the meaning of the word because it would be an unknown new term. Translating from one standard language, English, to another standard language as both the teacher in Dong’s (2011) example and I had done was still excluding the non-standard varieties of language spoken by some learners especially those in the urban areas. The inclusion of the urban variety is important because students may not understand the standard variety thus impeding learning and understanding. This confirms Krause and Prinsloo's (2016) point that the urban variety is common. For example, in the extract below, Lera recounts speaking and translanguaging with Abulele, a friend she made during her undergraduate study. Lera provides an example of how she, a Setswana speaker who taught herself to speak isiXhosa, and Abulele, her isiXhosa friend communicated in the laboratory whilst doing practical experiments in her undergraduate study using the prefix “si”:

Lera: Abulele would want to say something to me like ‘*Yeyabona si microscope*’ (See it is a microscope in isiXhosa) [laughing] so you can see, she speaks Xhosa but then only said ‘microscope’ in English. Or we will do, we will do...

Soraya: So, what is the equivalent for microscope?

Lera: In isiXhosa? Yoooooh.

Soraya: In Setswana?

Lera: I don’t know. I don’t really know Tswana that deep, so I’ll also just use ‘microscope’.

Soraya: Ok.

(Extract 6.2. Lera translanguaging in the science laboratory)

In Extract 6.2 above, Abulele's use of translanguaging in "*si microscope*" is part of the language mix that characterises the urban variety and facilitates understanding between multilingual speakers, if the term in the standard language is not known. Lera clearly states that she does not know the word for microscope in either isiXhosa or Setswana her home language when she says "I don't know. I don't really know Tswana (short for Setswana) that deep so I'll also just use 'microscope'". Lera's unfamiliarity with the Setswana term for microscope demonstrates that though the language policy in South Africa espouses additive bilingualism, in reality, the dominance of English and lack of textbooks and reference books in African languages mean that a subtractive bilingual education system is the experience of most students and learners. As the students learn English, the lack of accessible reference books and resources in African languages mean that they have no opportunities to learn the scientific and academic terminology in their home languages because there are very few resources in African languages to introduce or explain these terms. Similarly, in Figure 6.10 Kagiso, who lives in an urban area struggles to spell "*ukuxhwitha*" and Zara, who went to school in a rural area and knows standard isiXhosa well, provides the spelling teasing him by saying "Kagiso is using the BEE spelling". The "BEE" Zara refers to is an acronym for Black Economic Empowerment and refers jokingly to African language speakers in urban areas who are thought to have more opportunities for economic empowerment than rural isiXhosa speakers but who may not have access to the vocabulary and knowledge of the standard varieties of isiXhosa spoken in the rural areas. Standard varieties of languages are also the preference of publishers and are mainly used in the books published in African languages. Zara's acceptance of the term "plucked" for "stripped" also references her rural upbringing and her early years at a farm school where it is still common for households to keep their own chickens and grow vegetables. The use of the word "plucked" and the reference to Kagiso's "BEE spelling" are examples of the ways in which people "bring into contact different biographies, histories and linguistic backgrounds" when translanguaging as Blackledge and Creese's research demonstrates (2017: 250). Heteroglossic language practices such as translanguaging play a crucial role in communication and the urban language variety acts as a bridge between the English version and African language translation and is thus important to include when building a word wall or a

glossary of translated terms. It is the movement between the different varieties that allow full conceptual understanding especially in urban contexts where there is more translanguaging between multiple languages.

The facilitator's critical reflection on using language as a resource for science learning

The translation exercise that formed Activity 2 of 5 on Day 2 and the learning from Dong's (2011) research were important in expanding my understanding of pedagogic translanguaging and allowed me to understand the dynamics of working with multiple languages in a classroom when the teacher does not speak the languages of the learners. I understood the sequence of translation in a more refined way and the importance of first understanding the literal meaning of the English term in the context of the scientific register so that students could find the closest possible translation. Next, I learned the importance of checking the translation in the African languages and how having both the English meaning and the African language translation can build meta language awareness in English and in the African home language in science. The use of dictionaries to support bilingual language use and create "message abundancy" could serve those teachers who translate directly from English textbooks into African languages without necessarily understanding the meaning of the word in English. But translating from standard English to standard isiXhosa leaves the monolingual norm, that one does not mix languages, unchallenged and uncontested. It also devalues urban varieties that mix languages, alienating learners in urban schools where translanguaging is a daily communicative practice. At the level of literacy, using multiple languages does not create confusion because once the urban variety is included it can act as a bridge between varieties and it is actually the movement between the different varieties that offer the broadest access to learning for multilingual speakers. Previously, what was often for students, a single English entry or an English concept translated into everyday African language becomes a message filled with multiple access points which include English, standard isiXhosa, urban variety isiXhosa and Afrikaans. Thus, what Gibbons (2009) calls "message abundancy" on a linguistic level could manifest as follows:

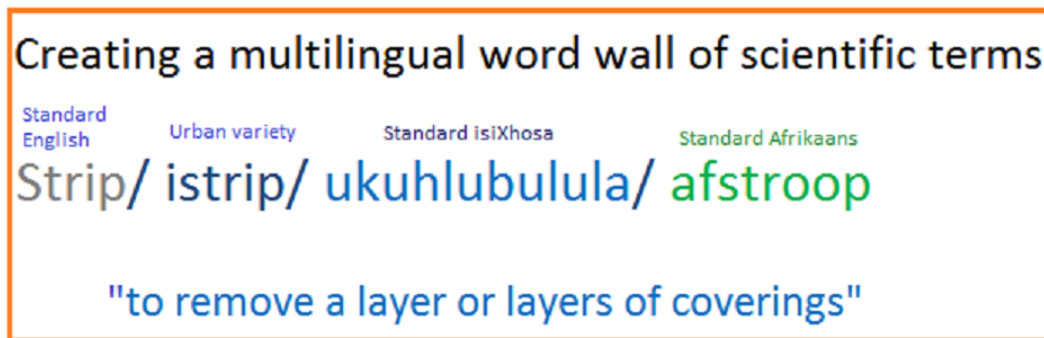


Figure 6.12: An example of a multilingual word wall item

The creation of a glossary wall that lists multiple translations would require time and resources such as English and bilingual dictionaries and textbooks. Madiba (2014) explains how this is already being implemented at some universities and that bi/multilingual dictionaries are being composed for multilingual undergraduate mathematics and science students. However, this valuable work remains in the elite domain of university disciplines and how to incorporate these resources still has to be introduced in teacher education. The advantage of using multilingual dictionaries, translation and translanguaging pedagogy would be that multilingual teachers and learners would be able to shift away from rote learning science content in English, to develop a repertoire in scientific register and promote learning not just in English but in African languages. For example, translations into the standard isiXhosa adds to learners' vocabulary in their African home languages while it provides learners with an understanding of the metalanguage of science and the literal meaning of scientific vocabulary in English. Ideally, one would need to combine both the strategies of the biology teacher Lisa, in Dong's (2011) research and my strategies to provide students with the best practices in a multilingual context like South Africa. Including language varieties and integrating and moving between the varieties can lead to a richer educational experience that includes instead of excludes the linguistic resources and diversity learners bring into the classroom.

Understanding how school context shapes language use

I now analyse Figure 6. 13. (below), which is a transcript of a discussion that happened at the end of Activity 2 after our discussion of Gibbons (2009), message abundancy, and the translation activity. The discussion amongst the students in Figure 6.13. below highlights how the school context, and lack of teacher training in multilingual pedagogy as well as the student teacher's own language ideology influences the classroom discourse and interaction. I had already switched the voice recorder off because we were having tea when the students started a conversation about what happened in schools around choice of language during their teaching practice. At this stage I decided to record the discussion, but I was not able to record Zinzi's opening comments and I rely on my fieldnotes for data on the first few minutes of the discussion. The students' discussion provided me with further insight into how language shifts with context and how much pressure African language speaking students are under to use monolingual English in schools. I start with relating Zinzi's teaching practice 1 experience at an elite English medium private school. Zinzi explained that she had wanted to use isiXhosa during practice teaching in a Grade 8 life science lesson on "Energy Flow in Food Chains and Food Webs" to help an African language speaking learner who she could see did not understand the lesson. However, because she was at a prestigious English medium school, she felt that using an African language would not be acceptable in the classroom. The learner was one of a small group of learners who were bussed in from townships and who were on scholarships at the prestigious school. The extract in Figure 6.13 starts when we are mid-discussion and Lera, narrates her experience during teaching practice 1 around the language use at a less affluent government school that had Afrikaans, isiXhosa and English-speaking students in the class:

- 1 Lera:** One of the learners was supposed to answer something and she...answered in Xhosa, you know, I'm like... 'No, please try to answer that in English' and she's like...'I can't say it in English Mam'. She wanted to answer in Xhosa and the others ... [Afrikaans/Kaaps speaking learners] were like 'No, then I also speak my language' which was like 'No, no' [speak English], which was, which was the coloured group [of students].
- 2 Zara:** So, they [Afrikaans/Kaaps speakers] like "no, then I'll also speak my language so speak a language we can all understand", So I think in a way if she [Lera] did it in class like that, probably some people would be like 'no we also want you to explain it in our language'. So, so I think, she [Lera] will be better, if she's like [to the isiXhosa speaking learner] learner 'no come and see me after class'.
- 3 Zara:** Cause even if she was to try and say let me speak in Xhosa and then translate it, then those who speak in Afrikaans would also want a chance to speak.
- 4 Soraya:** Then would you be able to do it in Afrikaans?
- 5 Zinzi:** Scientific concepts in Afrikaans? [Laughter]
- 6 Lera:** Cause even, ...maybe she'll still explain in Xhosa there are those concepts that you are still going to use English to say, you understand? So...
- 7 Soraya:** Umm hmm.
- 8 Thabo:** Well, I think the usual strategy I use is to then teach, give a task then go around, then you can explain to them personally then in that way, you can be able, to explain cause, you'll be talking to him alone. Give them a task, then go around the class, check those who are struggling, assist them in whatever way you can.
- 9 Zinzi:** But then how do I speak Xhosa in class at a prestigious [English medium] high school? That was my main challenge, I wanted to but I was so scared because I could see that the only way to help him was to speak [African language] vernacular. But I didn't.
- 10 Chorus:** Ummmm [All the students together].
- 11 Lera:** So, it's also, the environment also does count.

Figure 6.13: How school context, student teacher and learner language ideology affect language use in the classroom

At the start of Extract 6.13., Lera says "One of the learners was supposed to answer something and she answered in Xhosa, you know, I'm like...No, please try to answer that in English and she's like 'I can't say it in English Mam'". Lera revealed how language tensions in the classroom were activated when the Afrikaans/Kaaps speaking learners voiced the opinion that if Lera spoke isiXhosa to the isiXhosa speaking learner, then she had to speak in Afrikaans to the Afrikaans/Kaaps speaking learners. Since Lera was a Setswana speaker, who learned isiXhosa and only knew basic Afrikaans, she had to heed the Afrikaans/Kaaps speaking learners who said, "speak a language we can all understand", namely English. The problem with having English as the 'common' or shared language was that neither the

Afrikaans/Kaaps speakers nor the isiXhosa speakers had sufficient English language resources in the content subject and invoking English as “a language we all understand” was in reality disadvantageous for both groups of learners.

Though the Afrikaans/Kaaps speaking learner perceives English to be the language everyone understands this was not true as the isiXhosa speaking learner had said “I can’t say it in English Mam”. The internalisation of the myth of Anglonormativity (McKinney, 2017) namely the belief that everyone could and should speak English, is demonstrated in the words of the Afrikaans/Kaaps learner, who told Lera to speak English, a language that everyone in his view could understand. Lera, reiterates Thabo’s approach for dealing with a classroom context where there are multiple languages in the classroom or where the majority of speakers are English monolinguals, namely, that the best solution is “I think, she [the teacher] will be better, if she’s like ‘no come and see me after class’”. During her own teaching practice about two months prior in May and June 2016, Lera voiced her frustration at the learners who are uncooperative and unmotivated. She reflected in her TP1 journal that “Some learners never look interested, and it pains me to see that because I make efforts to prepare for the lesson trying to make it easy for them to understand but when I am in class trying to explain, its either others talk in class with their friends or others will just decide to sleep” (Thursday 14 April 2016 – TP1 journal entry). Lera does not connect their apparent disinterest to the fact that the students might not understand the schoolwork being taught in English, their additional language. This connection between language use in the classroom and learner behaviour especially those learners who appear to be unresponsive and unmotivated became clear to me much later and is, I realised, another learning point that I needed to share with the students.

At the end of Extract 6.13, Zinzi returned to her previous dilemma and voiced the conflict and guilt that multilingual student teachers may face in elite Anglonormative environments because they know that they can help African language speaking students, but they don’t feel free to use their African language resources. Zinzi asked us, “how do I speak Xhosa in a class at a prestigious high school? That was my main challenge, I wanted to, but I was so scared because I could see that the only way to help him was to speak vernacular. But I didn’t”. The students and I knew that her fear

was justified because speaking an African language would put her at risk of transgressing the school's language of instruction and the learner, in a vulnerable minority position, would also perhaps not appreciate the attention.

The effect of the interventions on student teacher pedagogy

The last aspect, around scaffolding the use of African languages as a resource, I discuss is whether the combined practices of the Language and literacy in multilingual schooling module of the Education core course of the PGCE programme and the academic and multiliteracies scaffolding I offered students made a difference to the way the students viewed language use in the classroom. When I asked Zara whether learning about language ideology, bi/multilingualism and translanguaging, and translation, made a difference to the way she viewed the relationship between isiXhosa and English, she said that without this knowledge and learning:

I wouldn't be comfortable teaching learners in isiXhosa or codeswitching. And I wouldn't be comfortable with focussing on more reading and writing activities in my lesson, all I would be focussing on would be science content, this is what the book says, this is what the book says...

Extract 6.3. Zara comments on accepting translation as a valued and valid teaching practice

Zara's confidence in using multiple language resources had grown as she states that if it were not for the multiple experiences, that she "wouldn't be comfortable teaching learners in isiXhosa or codeswitching" and that she "wouldn't be comfortable with focussing on more reading and writing activities" in her lessons. As Chapter 4 revealed, Zara learned the importance of scaffolding English for learners through her own experience at school when she finally had Suzanne, an English/isiXhosa/Afrikaans speaker acting as a language broker and translating schoolwork for her. Lera recalls how Zara implemented some translanguaging and translation practices during TP2 at an isiXhosa dominant school:

I remember in the natural science lecture, Zara mentioned that when she was doing her TP2, at first, she'll read through... There was a book of maths and science, where they translate English to isiXhosa... So she'll read through which topic that she'll want to

discuss with the class and then after, she'll give each learner the book and then which page to read... And then they'll also read in Xhosa to her and then she'll start with the lesson. So, I'm thinking if maybe you also had something like that.

(Extract 6.4. Lera commenting on Zara's teaching practice)

Lera, reveals how Zara who was at an isiXhosa dominant school in TP2, uses an isiXhosa/English bilingual textbook to orient the learners to the subject by letting them read the isiXhosa translations before she started the lesson. Zara's first steps into using learner language as a resource is to orient them to the field through reading, a similar process I used with her and the other students to prepare for essay writing. She thus starts building a repertoire with her learners, orienting them to the science content in an African language, increasing their sources of science content. However, her process like mine was incomplete and still needed some additional steps for example, she needed to check whether the learners understood the isiXhosa in the textbook; she also needed to ask them which words they did not understand and provide the meanings of those words. My incomplete process is thus echoed by Zara's emerging pedagogy. It does demonstrate that she is confident enough to try using bilingual resources and teaching methods at a school where this would be valued.

In TP 2 Kagiso taught in English even though he was at an isiXhosa dominant school with isiXhosa speaking teachers and learners. When I asked him about whether he used the bilingual and translation practices he learned, he said:

I told myself, let me just teach in English even though the students were not, didn't like that, they were complaining about that 'Why am I teaching in English?' But I told them that 'I'm helping you also to learn to speak in English and I am also helping myself so it's a two-way thing. It's ...about me and you getting to know how to communicate in English, and I find it very nice...the lower grades the natural science, the Grade 8 and 9 I was teaching in Xhosa, ja, I was teaching in Xhosa... just because they couldn't even understand [English].

(Extract 6.5. Kagiso on his decision to teach in English)

Previously, in Chapter 4, I discussed Kagiso's struggle with having to learn English at university and how he had to adapt to the change in language of instruction from

mainly isiXhosa at school to English at university. Even though he could speak English well and could write reports successfully in English, during teaching practice, he was told by his TP1 supervisor that he speaks too slowly and that he had “a problem with English”. These experiences entrenched Anglonormative language ideologies, which informed his decision to use English only in a classroom full of isiXhosa speaking learners. He recalled telling students that “I’m helping you also to learn to speak in English and I am also helping myself so it’s a two-way thing. It’s ...about me and you getting to know how to communicate in English”.

Supporting the use of multiple languages at university

One way in which students' multilingual resources have been embraced institutionally at the School of Education was to, like a few other disciplines, make learning isiXhosa and or Afrikaans compulsory for monolingual English speaking student teachers. This is an acknowledgment that student teachers need to be familiar with the dominant languages of the region both to support learners and to understand the complexity and the constraints of learning in a new unfamiliar language. McKinney (2017:4), states that:

in thinking about the achievement of social justice through education, the need for recognition of ‘non-dominant groups’ cultural resources forces us to question the construct of powerful knowledge, and how it is selected and constructed, as well as whose knowledge is visible and invisible, included or excluded from official curricula.

Adding isiXhosa and Afrikaans to the PGCE programme was one way of making ‘non-dominant’ groups resources visible and included in official curricula (McKinney, 2017: 4). I happened to observe that several English monolingual students asked Kagiso to assist them with their isiXhosa assessment at the end of the term. The assessment took the form of an oral question and answer session between pairs of students. Kagiso spent time shuttling between groups of students, assisting them with isiXhosa grammar and pronunciation. When I asked him how he felt about assisting his classmates with isiXhosa, he said, “Finally my language is useful” but then went on to explain how the English first language students were working on questions and answers that they were memorising and that this was not as complex

as academic discourse. Though Kagiso is positioned as the expert in this event, it is at the end of the academic year and for a short time. This interaction showed that students connected outside of classrooms and leveraged the resources of African language students in ways that the institution was not doing and is perhaps another way of foregrounding students' African languages as a resource for learning.

Day 2: Activity 5 of 5: Visit to the Science Centre

As part of the designed-in activities on Day 2 of the 5-day July holiday workshops I took the students to the Cape Town Science Centre. I planned this activity because I knew that the students needed to experience more of the multimodal practices of science, both for writing their lesson plans and as part of becoming a confident teacher. The description and analysis of the students visit to the Science Centre is discussed in the next chapter, Chapter 7, where I examine the students' visits to all the spaces and sites outside of the university that formed part of the intervention.

Conclusion

In this chapter, I discussed the 5-day July holiday workshops and focussed on the multimodal and multilingual practices of Day 2 of this series of workshops. I drew on decolonial theory and delinked from the patterns of coloniality the students experienced in previous learning and from approaches to learning that argued for simplifying or 'dumbing down' the curriculum for multilingual speakers. Instead, I drew on Gibbons' (2009) idea of amplifying the curriculum through message abundancy and designed activities that engaged the students in using multiple modes. I described and analysed activities one to five of Day 2 and how they created opportunities for the students to engage in experiential learning which included doing two science experiments and a visit to the Science Centre. I used Activity 1, the brainteaser to introduce the idea of learning through play and how these sorts of activities could be short and rely on resources (stones in this case) that were easy to find and transport. I used Activity two, the science experiments to engage the students in making science practical, embodied and for demonstrating how everyday objects could be repurposed for science learning. I wanted the students to realise

that science teachers do not have to wait for an expensive laboratory to do practical work. Activity 3 of 5, the report writing exercise was an example of how to include reading and writing activities in science and addressed Part Two of the Classroom Discourse essay question that required the students to consider literacies practices in science. I focussed on Activity 4 of 5, a translation exercise in greater detail as this activity was aimed at transformation and disrupting the Anglonormativity of having English as the language of instruction. Analysing the conversations between the students and I demonstrated that there are significant aspects to consider when engaging in a translation exercise which include: selecting the language of translation; the words to translate; understanding the constraints and refining the translation process; including the urban language varieties and moving between varieties. I also gained a deeper understanding of: how school context shapes language use; the complexity of using multiple languages when students have not had an opportunity to do this formally in their own schooling; and the power of language ideologies in shaping and constraining the 'choices' student teachers make in relation to language use in the classroom.

The importance of multilingual reference books like scientific dictionaries to the translation process was another important learning point. While dictionary use is often linked with a grammatical and skills approach to learning, what happened when this step was left out is discussed next. When Zinzi asked, “What does stripped mean?” and I did not guide the students to the literal meaning of the word ‘stripped’ in the English dictionary and contextualise the word, I missed an opportunity for learning and to maintain the link with scientific discourse. The word “stripped” means “to remove a layer” (Oxford Advanced Learner’s Dictionary, 1995: 1184) and by not checking the meaning of the word, the students missed the explanation of the word which could have guided them more closely when they translated the word “stripped” into their home languages. When teachers in South African schools use monolingual English textbooks, they may switch from scientific English in the textbook to their best understanding of the term in everyday language in their home language. As they translanguage between isiXhosa and English for example, the learners may write down or remember the teacher’s isiXhosa translation of the English words. For example, in Figure 6.10, Kagiso’s closest synonym for stripped is ‘chipped’. He says, “Chipped off, stripped is like chipped. *Ukucola*” (to grind). While he is

translating stripped into “*ukucola*”, Thabo says “*Hayi*” (No) while Zara says “No, *ukucola* (to grind) is, you like... grinding”. Thabo agrees with Zara saying “*Ukucola* is grind”. Kagiso’s answers (chipped and the less correct translation *Ukucola* or grind) move learners away from the action of stripping off or removing the layer of plastic coating to expose the copper wire that will conduct the current needed to create an electromagnet. Similarly, the other students in the group, Lera, Thabo, Zara and Zinzi also rely on their everyday knowledge and translate ‘stripped’ into “pluck” (isiXhosa: *ukuxhwitha*; isiZulu: *ukuchutha*; Setswana: *go tlhoba*). While all the translations are probable answers, neither chipping nor grinding the wire will remove enough plastic to expose the copper wire needed to create an electromagnet. However, “pluck” does have a similar meaning to “strip” and the acceptance of “pluck” will depend on the grade level and the language orientation of the teacher or assessor. Gibbons (2009) argues for the acceptance of everyday language as a starting point to scientific discourse, therefore moving from “pluck” to “strip”. If this movement from everyday language to scientific discourse is not made, the learners may remember the teacher’s translations “chipped” or “grind” or “pluck” which could lead to the answer being marked as incorrect if the assessment is marked by someone with an Anglonormative orientation to language.

Thus as researchers, Oliver, Wigglesworth, Angelo and Steele (2021: 11) writing on language rights and use in Australian classrooms with Aboriginal or First Nation children, note, engaging in “translanguaging within the classroom is not trivial, and requires a number of enabling conditions to support its uptake”. These conditions, they state, include teacher and community awareness around language ideology and language resources, time to implement and experiment and importantly, “the recognition of students’ existing language knowledge” (Oliver, Wigglesworth, Angelo and Steele, 2021: 11). As the data I discussed above has shown, when it comes to disciplinary knowledge in content subjects like Science, teachers may be more constrained and may need to use translation and specific subject content dictionaries or glossaries (Madiba, 2014) to keep the disciplinary knowledge stable. More research is needed on translanguaging as pedagogy in classrooms and the various ways teachers can create space for learners to use their language resources freely

in the classroom. The next chapter discusses the importance of visiting spaces outside of the university classroom to expand student teachers' experience with and awareness of the multiple modes of Science.

Chapter 7: Visiting spaces and sites outside of the university

Introduction

Chapter 7 responds to the fourth and last subsidiary question “What role do spaces outside of the university campus play in developing students’ identities as science teachers and in their construction of multimodal repertoires?” In answering this question, I continue the discussion started in Chapter 6, on how I as an academic literacies facilitator for student teachers of science needed to consider the disciplinary need for multimodal practices in science and how students could be given access to these multiple modes. This chapter focuses on Critical Framing and Transformative Practice and there were two aspects of the students’ educational experiences that I wished to delink from, remediate (Gutiérrez 2008) and transform through the site visits. These were: firstly, the low resourced school learning environments which created a need to support the pedagogical content knowledge (Shulman, 1986) of students learning to be science teachers. Secondly, drawing on decolonial theory, I sought to delink from the students’ narrow spatial trajectories that consisted of traveling from their living space to university and back. I argue that these sites outside of the university, were specially curated for multimodal learning experiences and were spaces where the pedagogic content knowledge required for writing interactive lesson plans and practical science teaching was available and abundant. The four spaces I chose to visit with the students were: the Science Centre, the South African (SA) Natural History Museum, the ESRRRC (Education Students Regional Research Conference), and the Baxter Theatre. I discuss how visits to these places shaped an awareness of different types of literacies and ‘ways of taking’ (Gee, 1990) and learning from these environments. In these spaces, the learning happened through playful interaction, observation and participation. In my discussion, I prioritise the visits to the Science Centre because four out of the five students were learning to be science and mathematics teachers and because the students had two visits to the Science Centre during the 5-day July holiday

workshops. The students spent 90 minutes on Tuesday 12 July and 90 minutes on Wednesday 13 July 2016 at the Science Centre. I then analyse the students' experiences in the other spaces such as the Natural History Museum, the ESRRRC student conference, and the Baxter Theatre. I draw on the experiences of all the students, Zara, Kagiso, Lera, Thabo and Zinzi. The data in this chapter is sourced from interview data, photographs taken at the sites and extracts from my fieldnotes as well as extracts from the students' TP1 journals which they were required to keep during their two teaching practice periods. The TP1 journals revealed: gaps in the students' pedagogical content knowledge and that the students were struggling to create interactive lesson plans. Inexperience with interactive teaching and multimodality caused some students to fail their first lesson plans for their methods classes and had in Lera's case, led to an unsuccessful TP1 mark.

Supporting student teachers' pedagogic content knowledge

The need for student teachers of science to teach multimodally is both a disciplinary requirement and a requirement of the PGCE programme. All students learned pedagogic activities through the PGCE lectures, as well as the methods classes, tutorials and support material such as the Teaching Practice Handbook, textbooks and other resources on offer at the university. The Teaching Practice Handbook 2016 provided guidelines and relevant information and listed the criteria or Outcomes by which student teachers were assessed during teaching practice. Outcome 1, for example, stated "Plan and organize systematically and imaginatively" and had the following sub-points "Plan lessons and tasks which reflect knowledge and understanding by the student; show imagination, insight, and an ability to plan beyond the expected" (Teaching Practice Handbook of 2016: 9). As the wording of Outcome 1 suggested, there was an implicit assumption that all students understood how to create lessons that showed imagination and insight. However, what is considered creative, imaginative and insightful is culturally based and learned through one's socialisation at home, in schooling and other social spaces. Ivanič (1998) supports "Vygotsky's claim that mental resources originate in the social world" (183). Since not all student teachers had access to well-resourced schools with engaged teachers, those students whose experience of science was mainly text-based required additional support with pedagogical content knowledge. My field

notes from the first Science Centre visit, reveal Zara's comment "We are taught the content that we missed [at school] in the PGCE but we are not really taught how to teach". Thus, though the students' school content knowledge gaps were addressed, Zara's view was that the specific pedagogy valued by the School of Education was not explicitly taught by all lecturers or not sufficiently taught by all lecturers. Cochran, DeRuiter and King (1993: 7) state that a "novice teacher tends to rely on unmodified subject matter knowledge (most often directly extracted from the text or curriculum materials) and [they] may not have a coherent framework or perspective from which to present the information" to learners.

My academic literacies work with Lera on her lesson plans, analysed in Chapter 6, confirmed the need for students to be exposed to different ways of presenting subject content. Cochran, DeRuiter and King (1993), citing Shulman (1986), note that it is the "integration or the synthesis of teachers' pedagogical knowledge and their subject matter knowledge that comprises pedagogical content knowledge" (4). Pedagogical content knowledge (Shulman 1986) refers to a teacher's ability to transform subject content knowledge for learners through finding "multiple ways to represent the information as analogies, metaphors, examples, problems, demonstrations, and classroom activities" (Cochran, DeRuiter and King, 1993: 5). There is a need to support student teachers with building a repertoire of imaginative and interactive teaching methods because as Darling-Hammond (1996: 5) states "most classrooms serving poor and minority children continue to provide students with significantly less engaging and effective learning experience".

The need to develop the students' pedagogical content knowledge is demonstrated through Zara's experience with her first lesson plans at the start of the year. Zara describes writing lesson plans for a class exercise during the first semester when she was new to the PGCE programme. She said:

in my lesson plans, I would be like, 'this content I understand'. 'I will do this, this way and then it will come back so well'. But '*hay*' [No] then the marks come, and it is 40%...But I worked so hard.

(Extract 7.1. Zara comments on failing a lesson plan class assessment)

Zara points out that though she felt that she knew the content she was teaching, revealed in the words, “This content I understand”, and that she had made certain pedagogic choices based on her experience, “I will do this, this way”, she was not successful. The isiXhosa word “*hay*” or “no” and the words “then the marks would come, and it is 40%” indicate her dismay that her result was well below the 50% pass mark. Even though Zara applied herself “I worked so hard”, there were aspects of pedagogy and design that she had not yet learned that fulfilled sub-point one of Outcome One “Plan lessons and tasks which reflect knowledge and understanding”; also “show imagination”, “insight”; and “an ability to plan beyond the expected”. As the students’ literacy histories revealed in Chapter 4, Zara, like Lera, Kagiso and Thabo, learned school subjects including mathematics and science primarily through teacher notes and textbook memorisation. This meant that these students required support in creating lessons for Grade 8 to 12 school learners that fulfilled the criteria of Outcome One “Plan lessons and tasks which...show imagination, insight, and an ability to plan beyond the expected” (Teaching Practice Handbook of 2016: 9).

Student teachers’ contact with mentor teachers during teaching practice is also supposed to bolster and support their pedagogical content knowledge. However, as part of the discussion in Chapter 6 revealed, some student teachers, like Lera, did not receive this type of support, while other students like Zara did receive some support. Lera’s contact with mentor teachers at a low resourced school led her to replicate and produce similar text-based science lessons. For example, as explained in Chapter 6, Lera was told by the mentor teacher to skip the practical experiment because there was no laboratory at the school. However, she was reprimanded for not making her lessons practical by the university appointed supervisor assessing her teaching practice. In contrast, Zara was at a highly resourced school and she could learn through observing the mentor teacher. Zara wrote on Day 4 of Teaching Practice 1 on 12 April in her TP1 journal “The science teacher emphasized practical work and the biology teacher preferred demonstrations so as to make content clear. The experienced mathematics teachers had similar methods” (Zara, TP1 journal entry 12 April 2016). Similarly, Zara wrote on Day 9, 18 April when she was observing a Grade 9 science class on balancing chemical equations, that the teacher “first gave a lecture, used a video and showed the learners by demonstration” (Zara TP1 journal entry). Zara was learning through observation how the mentor teacher

layered the modalities, starting with teaching the content, described by Zara as a “lecture”, then the mentor teacher used multimedia in the form of a video and thirdly the mentor teacher performed a demonstration. Zara also noted that when the teacher used laboratory equipment during the demonstration, “each time she used a different apparatus she asked the learners what they [apparatus] were” (Zara TP1 journal entry, Day 9, 18 April 2016). The mentor teacher was thus engaging the learners throughout the demonstration using what Gibbons (2009) would call “message abundance” and “amplifying the curriculum”. Perhaps this shows that in some ‘elite’ disciplines like science and in elite resourced schools these were established practices. Zara was able to observe the mentor teacher engaging in Outcome 1 of the Teaching Practice Handbook “Plan lessons and tasks which reflect knowledge and understanding” and that shows “imagination” and “insight”.

Observing these mentor teachers provided Zara with guidelines or criteria that allowed her to measure her own teaching practice in relation to the mentor teacher practices. For example, in her TP1 journal entry for Day 6, 13 April 2016, on a Grade 9 biology class, when she taught the human respiratory system and related diseases, she critiqued herself and wrote that the “PowerPoint was full of words and there were no pictures to show the different diseases of the respiratory system” (Extract 7.2. Zara’s TP1 journal, Day 6, 13 April 2016). Her words reveal her growing awareness of the multiple modes that are important to teaching biology. From a multiliteracies perspective it reveals that learning to compose lessons in PowerPoint needs to be taught and scaffolded, especially for content subjects like biology. Zara realised the effect of the text-based PowerPoint on the learners when they could not label the different parts of the respiratory system on a diagram that she set as a class exercise. She wrote in her TP1 journal that when the learners “were asked to close their books and try labelling the diagram, they were unable to. For this I blame the way I insufficiently used the PowerPoint” because there were no diagrams, photographs nor a demonstration that could support the learning experience. Zara is able to draw a direct relation between the writing and content of the PowerPoint presentation and learner output. Zara and Lera’s varying experiences show the significance of multimodal input to learning and teaching. While Zara learned to replicate the multimodal lessons at the well-resourced school and this disrupted her previous experience of text-based science learning, in contrast, Lera’s prior

schooling coupled with her observation of semiotically sparse teaching practice caused her to replicate these patterns in her own teaching. It was only when Lera was critiqued by her TP supervisor that she started to implement multimodal learning, but this occurred too late, at the end of her TP1 period.

The outside of university site visits were thus a way to make content knowledge more meaningful and provide the semiotically varied and experiential input required by Outcome One of the students' Teaching Practice Handbook. It was also a way to build their knowledge so that the students were able to make decisions about how to teach interactively and use activities which would allow them to be less vulnerable to contextual differences such as school resources or mentor teacher capabilities and methods. Hattingh, Aldous and Rogan (2007) found in their study of science teachers that there was no relationship between resources and the amount and level of a teacher's practical work. Their study shows that teacher decisions to use practical work depend on various factors with teacher motivation and an affinity for practical science a significant factor (84). One of the aims of introducing the students to these outside of university learning spaces was to activate an affinity for practical science and to stimulate and encourage the use of interactive learning methods.

Delinking from students' narrow spatial trajectories and limited access to multimodal science texts

Taking students beyond the university classroom introduced them to new spaces and is arguably a form of delinking from continuing apartheid generated restrictions on movement and access held in place by limited economic resources. The students' narrow band of movement, from university campus to living space and back lay partly in the coloniality of restricted movement during apartheid that continues for the majority of black people post-apartheid. According to Massey (1999), different groups have different degrees of spatial power and distinct spatiality's, which are expressed in a variety of ways. As apartheid history showed, groups in South Africa had different access to space based on racial categorisation. Though South Africa is in the post-apartheid era, economic constraints cause many black students to remain in a narrow spatial trajectory, unless students are introduced to new spaces.

Lefebvre (1978), cited by Neely and Samura, argued that "One of the consistent

ways to limit the economic and political rights of groups has been to constrain social reproduction by limiting access to space” (2011: 1936). In other words, while relations of power intersect with and may constrain the movement or placement of people, they also inform the knowledge produced within and about particular spaces (Neely and Samura, 2011: 1936). Space is important to learning and literacy argue Neely and Samura because providing participants with access to varied spaces affects the texts which they have access to and affects the texts they are able to produce (2011: 1939). Gutierrez argues that “outside of school” or university learning spaces can create conditions for learning through creative interaction including “how people are made smart by [the] use of artefacts and participation in particular social groups and settings” (2008: 150). Next, I discuss each of the four sites, starting with the Science Centre, then the Natural History Museum, the ESRRRC student conference and lastly the visit to the Baxter theatre. I examine the role the site visits played in fostering the students’ awareness of different types of texts and multiple modes.

Site 1: The Science Centre



Figure 7.1: Students visit the Science Centre for the first time

The visits to the Science Centre took place on two consecutive days during the 5-day July holiday workshops. The Science Centre was an open warehouse type space with white walls and exposed metal beams. It was filled with more than 230 exhibits, rare artefacts like a gyro sphere, wave simulator, landing shuttle and Cosmonaut suit. It was staffed by senior science students from an HBU⁸ who wore white lab coats and performed demonstrations in an amphitheatre on the premises. The levels of complexity in activities at the Science Centre ranged from those suitable for toddlers to high school students and interested adults. There were posters placed at the exhibits to explain the activities and participants (mostly children) were free to move between games and installations as they chose.

The Science Centre was a source of practical science work defined by Hattingh, Aldous and Rogan (2007: 77), as "those teaching and learning activities in science which involve students at some point in handling or observing real objects or materials (or direct representations of these)". The Science Centre could be considered a large-scale science classroom of sorts and matched Kress, Jewitt, Ogborn et al's (2014), description of a science classroom as a space that should allow access to multimodal experiences through the "meaningful manipulation of models and equipment, the exhibition of objects, and the use of demonstration and experiment" (75). Similarly, Lemke wrote that experiential learning is important because "thinking is a kind of material action, and that it is conducted not just in and by the human brain, but by the whole body, making constant use of material tools and artifacts in the environment" (1998: 4.) This material action which involves the brain, body and objects are then interpreted "by means of socially learned and culturally specific systems of meaningful signs, such as the languages of words, diagrams, and mathematical symbols" (Lemke, 1998: 6).

In Figure 7.2 below, we see Thabo and Kagiso playing a stacking game that involves the body and mind and which encourages one to enact the basic mathematical principles of sequencing and sorting by shape and size by moving the rings from ascending to descending order or vice versa.

⁸ HBU is an acronym for 'Historically Black University'



Figure 7.2: Thabo plays a stacking game while Kagiso records his actions

In the image above, Thabo made a stacking game more challenging by setting a time limit on its completion. Kagiso filmed the game with a mobile phone to show evidence of Thabo's speed and skill. This game, like many others at the Science Centre, is used to promote problem-solving and self-correction without the pressure of an assessment. In the background on the left-hand side are children playing drafts and this reveals the difference in the ages between the student teachers who were visiting the Science Centre for the first time in their twenties and children under ten years of age already enjoying the space and learning the patterns of interaction of the multimodal space.

As Figure 7.2. above illustrates, there were many modes used at the Science Centre but due to the constraints of space, I focus on three: experimentation, demonstration and visual display. Drawing on the work of Kress, Jewitt, Ogborn et al (2014), I firstly discuss the role of experimentation through the use of everyday and scientific

objects and or equipment at the Science Centre. The experiments at the Science Centre played a rhetorical role in allowing the students and children present to become “scientists” as they worked with the equipment and brought them “into the habitus of science via the handling of equipment” (Kress, Jewitt, Ogborn et al., 2014: 80). The experiments also constructed a “realist approach to the nature of science” and the creation of fact through the “rhetorical stance of ‘see/do it for yourself’” (Kress, Jewitt, Ogborn, 2014: 80). Figure 7.3. below shows Lera at the Science Centre, playing with the Viscosity experiment. The information on the board is organised according to four simple questions, “Do What?”, “See What?”, “What’s Up” and “So What?” which are repeated on most of the experiments and exhibits. The first question “Do What?” provides the instructions on how to use the apparatus, for example “Turn the inner metal frame upside down and watch the air-bubbles as they travel upwards”. The second question “See What?” asks the following sub-questions “Which bubble travels the fastest and which the slowest?”; “Why do you think they travel at different speeds?” and lastly, “What do you think the different liquids are?”. The third question “What’s Up?” provides an explanation of the experiment and a definition of viscosity as “a liquid’s resistance to flowing”. When Lera followed the instructions and turned the frame upside down, she could see or witness the liquids moving downward at different speeds.



Figure 7.3: Lera learns about viscosity through playing with the apparatus

In the “What’s Up?” section, we are told that “The liquids are (from left to right) syrup, foam-bath, dishwashing liquid, bubble-bath, gearbox-oil, olive-oil, and water”. Thus, the liquids used in most (at least middle class) homes everyday are transformed in the scientific experiment and the “familiar was temporarily transformed into the unfamiliar” (Kress, Jewitt, Ogborn et al, 2014: 82). The exhibits are equally divided between using specialized equipment and using everyday objects. Kress, Jewitt, Ogborn et al (2014) argue, that using everyday objects in science experiments or demonstrations, reframed the everyday, and allowed the students “to see new qualities and functions in entities and to see the scientific potential within the everyday. The everyday world thus temporarily entered the scientific” (Kress, Jewitt, Ogborn et al, 2014: 82).

In another exhibit, Zara and Lera seen in Figure 7.4. below look at examples of applied science that have influenced and shaped modern day living.



Figure 7.4: Zara and Lera view the “Marvels” exhibit

Zara and Lera are ‘marvelling’ at the turning mechanism of the lipstick that allows a product to rise in a tube through rotation. Many of the mechanisms on display remain in use today. By viewing that one installation called ‘Marvels’, Lera and Zara were able to read about the inventors and the inventions and gain deeper knowledge of many small objects used daily such as the digital watches and spark plugs that can be seen in the forefront in Figure 7.4.

Student access to multiple modes in a new space

Next, I analyse the students’ comments on their experiences of visiting the Science Centre to understand how the modes worked together to expand or support learning. I start with Zara’s experience and then include Zinzi and Thabo’s experiences. In Extract 7.4, below, Zara speaks about the significance of going to the Science Centre and how that experience influenced her teaching:

the visit to the Science Centre, it really helped cause in the last few days [of Teaching Practice 2], I taught the learners, it was light, visible light, and the whole experiment that they did [at the Science Centre], in terms of what you can see in a pin hole and things like

that, ja it really helped, because I was able to relate to that when teaching the learners and I knew then even way before asking them to do the pin hole, I knew, I knew... [clapping her hands] what they were expecting to see and why and then I was able to explain it to them in more scientific terms.

(Extract 7.3. Zara, on the visible light demonstration at the Science Centre)

Zara's excitement at knowing on an experiential level what the outcome of the science experiment would be is expressed in the words, "it really helped because I was able to relate to that when teaching learners". Her gestures, clapping her hands and the repetition of the words "I knew...I knew, I knew..." show her enthusiasm for teaching from a position of personal experience and understanding. Zara's sense of knowing was shaped by her experience of the visible light experiment at the Science Centre. She and other participants, were taken to a dark room where a few of the participants standing at the back of the room were asked to move away from the window, allowing a tiny sliver of daylight to shine through a small circular clear area on the blacked-out windows. The Science Centre assistant then directed our attention to the properties of light, that it travels in a straight line, that it can be reflected, refracted, diffused and diffracted. The assistant also explained how we see colour. Following this experiment on light, all of us went into another dark room where the camera obscura was demonstrated and shown. We were also free to ask the assistants questions about the camera obscura and how it worked. Zara's factual knowledge about light that she read in a textbook was thus enhanced through the visible light experiment and deepened with her witnessing and experiencing how light was used by the camera obscura in a darkened room to reflect the street, moving cars and buildings in real time some distance away. Also, by watching the assistants doing science practically, the following aspects were modelled: how to demonstrate scientific concepts, how to respond to learner questions in a positive way and how to provide a practical example of how the properties of light are used by the camera obscura. Visiting the Science Centre, thus allowed Zara to gain the experience she needed to teach a particular concept, visible light, successfully during her second teaching practice. Specifically, it connected to the Outcome on planning and organizing imaginative lesson plans. Her experience of the contrast between dark and light as well as what she observed of the demonstration further

created the opportunity to enact Outcome 3: “Conduct lessons confidently on the basis of knowledge” (Teaching Practice Handbook 2016: 9-10).

Figure 7.5 below demonstrates the modes working together to build knowledge in an area, for a student teacher like Zara. In Chapter 2, in the Theoretical Framework, I cite Kress, Jewitt, Ogborn et al (2014: 1) who, state that “the multiplicity of modes, which are always and simultaneously in use, shows conclusively *that meaning resides in all of them and that each contributes to the overall meaning of the multimodal ensemble in quite specific ways*” (italics in the original). Zara’s experience of the visible light experiment shows how the multiplicity of modes “are always and simultaneously in use” (Kress, Jewitt, Ogborn et al, 2014: 1).

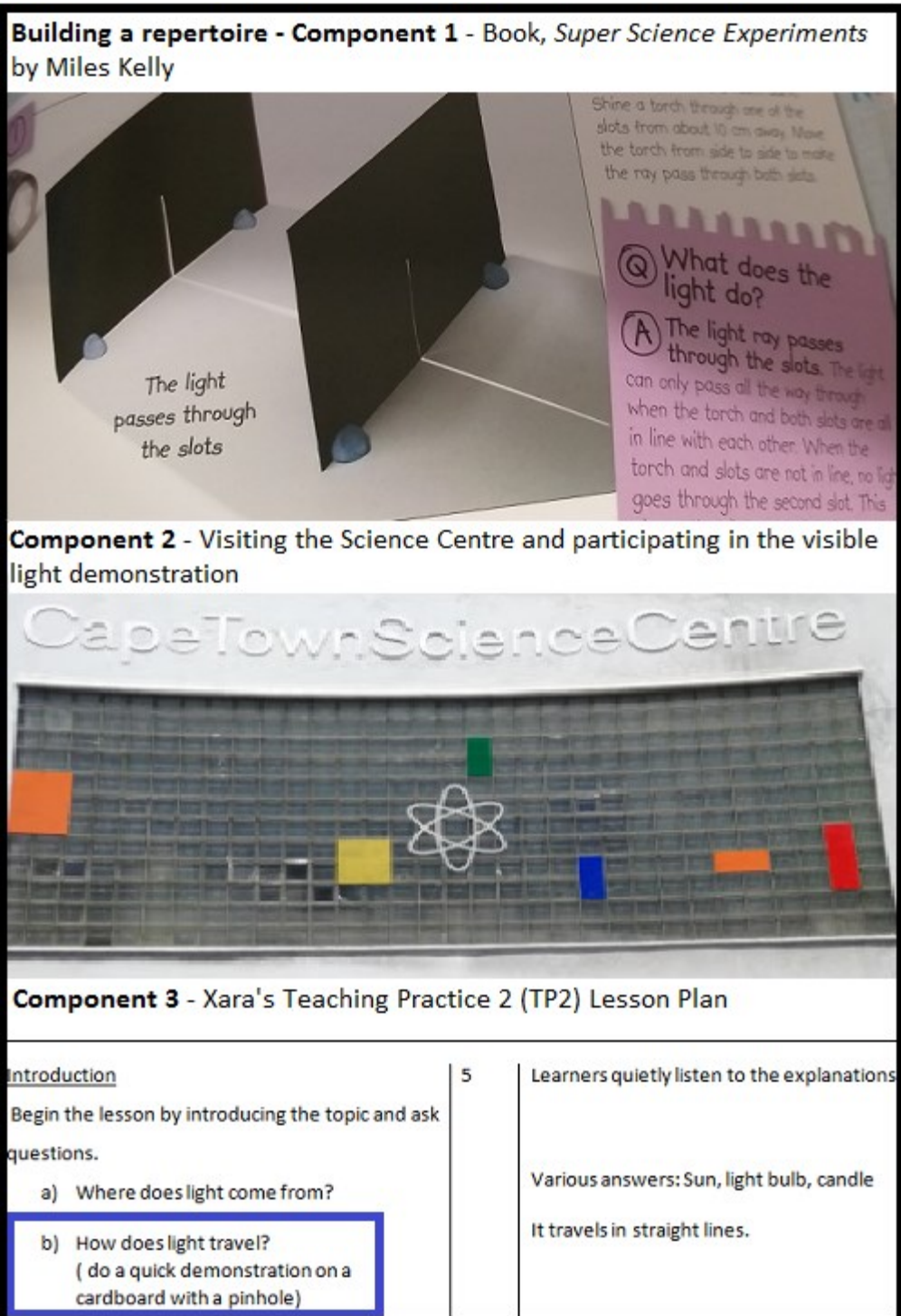


Figure 7.5: Building a multimodal repertoire

Zara's knowledge on visible light was thus gathered through experiences drawn from her previous knowledge, reading the Miles Kelly (2014) book on experiments, visiting the Science Centre and experiencing the visible light demonstration and was then written in her lesson plan and shared with learners in a classroom activity.

Student identity and imagining future roles

I now draw on Zinzi's reflection on the Science Centre visit which revealed a different focus compared to Zara as Zinzi focussed on her role as a science teacher. Zinzi said:

I enjoyed the site visits because I'll be a science teacher and so obviously, I will take my learners for site visits. And for me, um...for you to take us for those site visits, they helped because you kind of showed me what I need to do when I'm teaching because we didn't go there just to walk around and go around, you also gave us worksheets isn't it so that we can sort of link our visit to what the worksheet is saying. So that was useful. Even though when the lecturer gave us an exam, something like that I couldn't answer. I don't know why; I just went blank.

(Extract 7.4. Zinzi comments on the Science Centre visit)

Zinzi already envisioned herself taking learners to 'outside -of-classroom' learning spaces when she said, "I'll be a science teacher and so obviously I will take my learners for site visits". Zinzi stated a future intent to be a teacher that values taking learners to learning spaces outside of the school classroom. Also, her five-year old son was with her at the Science Centre, and she could see his enjoyment and engagement with the artefacts and educational toys which added a personal motivation to her experience. Another learning experience that Zinzi reflected on was the use of the worksheet I provided that was supposed to guide the students when they were at the Science Centre. Zinzi said, "you kind of showed me what I need to do when I'm teaching because we didn't go there just to walk around and go around, you also gave us worksheets isn't it so that we can sort of link our visit to what the worksheet is saying. So that was useful". Zinzi was commenting on the aim of the worksheet which was to turn the Science Centre visit into a guided learning experience for the students. The worksheet instructed the students to think about a science topic in the school curriculum and then to choose an experiment or game at the Science Centre that was linked to that topic so that they could have a practical example from the Science Centre to draw from when they created lesson plans during Teaching Practice 2. My intention was to link the practical applied scientific examples at the Science Centre to creating practical and creative lesson plans and I wanted to use the worksheet to make this connection. However, the students were

so enthusiastic about learning and engaging with the exhibits at the Science Centre that I saw the worksheet folded up in their back pockets as they needed their hands to use the apparatus. I had perhaps underestimated the stimulation and engagement the Science Centre would evoke for students who had not experienced the space before.

I now discuss how assumptions about students' experiences and access to spaces like the Science Centre can influence the type of assessment questions set by some lecturers because at elite universities a significant number of students (irrespective of race) come from well-resourced schools. In the last few lines of Extract 7.4 Zinzi, commenting on the Science Centre visit, and said "So that [Science Centre visit] was useful. Even though when the lecturer gave us an exam, something like that I couldn't answer. I don't know why; I just went blank". Zinzi was unable to draw on the Science Centre experience possibly because she had only visited the space twice and a considerable amount of time had passed. Also, between the Science Centre visit in July 2016 and the assessment in November 2016, both Teaching Practice 2 and the #FeesMustFall student protests and the university shutdown took place. After all these very intense experiences and events as well as the pressure of writing an exam, it was understandable that Zinzi's response was "I couldn't answer. I don't know why; I just went blank". The examination question based on a visit to the Science Centre revealed the assumptions made by the lecturer, namely that students would have experienced outside of university spaces like a Science Centre numerous times so as to easily shape that experience into a lesson plan under examination conditions – even after weeks without lecturer and student interaction due to the student protests. Zinzi's experience demonstrates how students from low-resourced schools and communities can be vulnerable in elite learning contexts.

New spaces, access and countering spatial coloniality

Here, I draw on Thabo's experience of the Science Centre to demonstrate how facilitating student access and entrance to 'outside of university' learning spaces like the Science Centre could counteract the spatial coloniality that continued to reflect and reinscribe apartheid laws like the Group Areas Act and the Pass laws that limited the mobility of black South Africans. Though Thabo's response to the Science

Centre visit was enthusiastic, he also articulated his awareness of restricted access to certain spaces and his hesitance in visiting these spaces on his own. When I asked Thabo, “The Science Centre visit for example. How was that?”, he replied:

Well...uh... of course it was my first time, we do have one in PE [Port Elizabeth] but, I never thought of going there... I didn't know much about it, what they do and all these kind of things *ja* (yes)so it was my first time going there when we went together. And for me it was...[exhale uh] uh...I was blown away cause I didn't know that there is such as place...with such...ok...I didn't know that there was such a place ...cause...*ja*(yes)...where you can go and have fun and get to learn at the same time...*ja*(yes)..and take young kids there so that they can play and learn at the same time, *ja*(yes)...so *ja*(yes)...So for me I felt like it's a place...ah...I can also...cause I've...ah...cousins there that are still in primary...I feel like this is ...a place I can take them also so they can go there and be exposed to all of these things and get to be exposed to sciences. Cause that's one thing we are not exposed to as black people coming from the rural areas.

(Extract 7.5. Thabo comments on the Science Centre visits)

Though it has been more than 20 years since the official end of apartheid in 1994, people's patterns of using space have been entrenched over generations. Apartheid law engineered space and produced what Massey (1999) describes as variances in spatial power. For example, Thabo revealed that though he knew of a Science Centre in Port Elizabeth (PE) a city close to where he grew up and lived in the Eastern Cape, he said “I never thought of going there” indicating that spaces still hold resonances of apartheid law and restrictions which in post-apartheid times are held in place by entrance fees which may be a barrier to people using that space. These spaces are also physically situated in historically white and affluent areas for example, the Baxter Theatre, another site the students visited, is located in Rondebosch; the Science Centre is in Observatory and the Natural Science Museum is in the city centre, all historically white designated spaces during apartheid. Thabo also stated the importance of the shared experience of visiting these spaces for students when he said, “it was my first time going there when we went together”. Thabo articulates how the experience affected him when he said “I was blown away cause I didn't know that there is such as place where you can go and have fun and get to learn at the same time”.

The facilitator's critical reflections on the Science Centre as a learning site

Viewing the Science Centre using a decolonial and multilingual lens allowed me to observe and experience the space differently from previous visits. Once I visited the Science Centre with the students who were African language speakers, I became aware of how monolingual the space was. For example, as seen in Figure 7.6. below, all the explanations and instructions are in English:



Figure 7.6: Explanations and instructions in English only

I also observed that the majority of the exhibits featured male scientists and that there were no female inventors or scientists clearly visible. The significance of women in mathematics and science is well documented and their contributions to the field needs to be acknowledged and included. In addition to this, having exhibits in multiple languages is also an aspect of the Science Centre that can be improved.

Site 2: The South African (SA) Natural History Museum



Figure 7.7: Students near a replica of human DNA outside the SA Natural History Museum

The second site the students and I visited was the South African Natural History Museum in Cape Town. We visited this space on the afternoon of Friday 15 July 2016, the last day of the 5-day July holiday workshops. My aim in visiting the museum was multiple. Besides the rich source of information that the museum offered, I also wanted students to experience how a text like a student card that shows belonging to an institution could grant access to another place/site of information and learning. This increased access was also granted without having to pay an entry fee since all registered South African university students and school children have free access to the Natural History Museum in Cape Town. I drew attention to students' right to access this space freely by asking them to bring their student cards and when we entered the museum, I commented on the ease of access they had to that space. Showing our student cards at the entrance was an enactment of access, which though many middle-class children would start

experiencing in primary school, was still uncomfortable since any other adults visiting had to pay a fee to enter. My decision to visit the Natural History Museum had an element of discomfort attached to it since decolonial theory would problematise the fact that you need a card to enter that space which made it another form of elitism that university students have access to. Another aspect was that museums are often critiqued as spaces of coloniality and conquest. However, I decided that the scope of exhibits and information the space provided was considerable especially the biodiversity of plants and animals found in South Africa and Africa. For example, students may have seen pictures of a whale, but they were now able to hear examples of the whale sounds of Southern Right whales that come to the South African coast to calf in winter. Students could also experience the scale of these giant ocean mammals through the life-size replicas of whale skeletons at the exhibit on large sea creatures. The detailed nature of experiences in three dimensions and sound are not available through images, still photographs and written descriptions found in textbooks. After the visit to the South African Natural History Museum, I wrote in my fieldnotes:

I wondered what the value of taking the students to the museum was besides interest and going to a new place when while driving to drop the students [at the taxi rank], Zara who was sitting in the front passenger seat said that she had learned and taught the food chain to Grade 8 learners [during TP 1], but until she saw the food chains [presented] in the Museum, she realised that she didn't really understand the concept until then.

(Extract 7.7. Soraya's field notes Friday 15 July 2016)

Zara's comment on how the museum visit was meaningful to her made me aware of how theoretical school knowledge represented by diagrams and drawings found in textbooks and workbooks is made richer and more meaningful when students are able to view life-size 3D representations of processes, like a food chain. Though Zara might have known that snakes and cats eat rodents, the three-dimensional life-like depiction in the museum extended the food chain to one that would occur in the wild. For example, the snake eats the rodent, the mongoose eats the snake and the wild cat/ Serval or wild dog eats the mongoose. Zara was able to view a representation of the multiple participants in a food chain scaled in the size and

representation of wild animals. Also, the food chain installation was repeated featuring animals from different habitats, for example, in ocean habitats the food chain was represented through fish, predatory fish, seals and sharks or Orcas in coastal areas. The concept of the food chain was thus repeated in three dimensional exhibits in different habitats and anchored with explanations that were written in simple English next to the installations. The exclusively text-based learning that Zara experienced at school and the theoretical knowledge she had were thus extended through viewing the three-dimensional representations of food chains in different natural environments elevating the conceptual understanding that a food chain can occur and recurs in several (or all) natural environments. Zara had taught this lesson to Grade 8 learners at an elite school where most of her students would probably have visited the museum in kindergarten or primary school. Arguably, the learners could understand the diagrams of the food chains in the textbook because they had already observed varied representations of food chains in learning spaces like the museum or in spaces like the Science Centre discussed above. The museum thus provided more abundant and detailed data on processes like food chains that allowed viewers access to information about settings, scale, texture, colour and sometimes sound.

Site 3: The Education students' conference as learning space

The third outside of university learning space that I discuss is the Education Students Research Regional Conference (ESRRC) hosted at the university in September 2016. The ESRRC is a small regional conference based in the Western Cape attended by PhD and Master's students from surrounding Higher Education institutions who present work in progress in Education and related fields. The yearly conference is hosted by one of four universities in the region and the responsibility for hosting the conference is rotated between the four universities. Though the conference was aimed at and organised by PhD students and was at a more advanced level than the PGCE students in the study, I felt that the students could benefit from attending the conference. The conference allowed the students to meet Education students from other universities and higher education institutions in the region. The student conference also allowed the students to participate in and experience the conventions of a conference such as presenting and communicating

research and responding to and asking questions. It was also a means to learn more about the field of education, different theories and areas of research.

On the first day of the conference, Friday 2nd September 2016, I was able to give the students a short orientation to the conference venues and briefly go through the programme. Since I was on the organising committee at the time, I was not able to guide the students through this experience fully. After I showed students how to read the conference programme, I asked them to select a presentation and accompanied them to the presentation venue. They chose to attend the presentation of a PHD Candidate that they knew who had presented on Mathematics in multilingual rural secondary school classrooms. The presentation was entitled “‘It's just symbols’– How mathematics teachers' mathematical epistemologies guide their approach to language in a rural secondary school in the Eastern Cape”. The students also chose the presentation because Zara, Kagiso and Thabo were learning to be mathematics (and science) teachers, three of the students were isiXhosa speakers and Zara and Thabo had spent their early years living and schooling in the Eastern Cape. All four students went to the same venue and stayed there until the session broke for tea. At tea-time I checked in with the students and noticed that they were sitting on the stairs some distance away from the main body of people and the refreshments. I then invited students to fetch coffee and biscuits. I also noticed that though there were exhibitors students had not gone to any. When I asked them afterward, they said that they thought that vendors were selling things. Vendors were selling books and other items, but some vendors were also offering free journals, cups and USB memory sticks to students. However, because the students were sitting off to one side, they missed the opportunity to engage with vendors and obtain these free items. The students' explanation that they thought vendors were selling things shows how the constraint of not having money to spend on nonessential items also influenced their actions in the space. What I learned as a facilitator was that in new spaces, students needed clear guidance on how to participate in the space and perhaps engage with different groups of people there. The event showed me that just because students were physically present in a space did not mean that they were confident enough to walk around and speak to others at a new and unfamiliar event.

When I asked Zara, about the significance of attending the student conference, she said that after attending a presentation on mathematics, she could:

understand the good places to talk to people, to see different people with different perspectives on things and...listening to the presentations helped me understand what's out there and how teachers perceive some of the subjects cause sometimes, you lose learners in class because you first tell them "‘argh', maths is just symbols. If you understand the symbols, it's fine". Then you give them a question with English then the learners won't understand the questions.

(Extract 7.8. Zara commenting on attending a conference presentation at the ESRRRC 2016)

Zara's view that attending the conference allowed her to realise that there were spaces to "talk to people, to see people with different perspectives on things" may demonstrate that conferences can serve as learning places for students engaged in their first postgraduate degree. More importantly, the conference presentation that Zara and the other students attended allowed Zara to view the role of language in subjects like mathematics more critically, she said:

If you're not able to understand the statement, then how are you able to calculate things? If it is just symbols, then...why can't learners understand questions about series and when they're doing the statistics, cause there is a lot of English. So, it came to me that Maths is just not symbols. In essence there is language involved and if learners don't understand the language behind it then they [teachers], you just lose them in the maths [class]...

(Extract 7.9. Zara comments on the significance of language in mathematics)

Zara's awareness that, "Maths is just not symbols. In essence there is language involved" was influenced by her listening to a presentation on teaching mathematics in African language dominant classrooms in a rural area in South Africa. These perspectives on the intersection of language and content knowledge, specifically in mathematics is significant in the South African context because Thabo was learning to be a mathematics teacher while Zara and Kagiso were learning to be Science and Mathematics teachers. It was also important for the student teachers to be reminded of how they needed to mediate subjects like mathematics for African language speaking learners especially since the textbooks are also in English.

Site 4: The visit to the Baxter Theatre



Figure 7. 7: The Baxter Theatre complex

The last site visit that I analyse is the visit to the Baxter theatre to see the play *The Fall*. The Baxter Theatre is a well-known space, affiliated to the university and its immense scale and grandeur can be quite imposing and intimidating to anyone for whom the space is unknown and new. The students' first visit to the Baxter theatre, happened in mid-October 2016 when the students and I met at the Baxter café for a group discussion as part of essay preparation because the university was closed due to the student protests. When I arrived at the café in the Baxter theatre complex, the students had not arrived yet and when I sent them a message asking them where they were, Zara replied saying that they were outside the building. I asked them to come inside and as I stood on the staircase so that they could see me clearly, I realised how intimidating the space was and wondered how I could introduce them to the space a second time. When the play *The Fall* was recommended by a friend, I decided to arrange a theatre visit for the students.

The Baxter Theatre visit was both to introduce students to a new space and to provide the students with a multimodal representation in the form of a theatre

production of the historic 2015 #RhodesMustFall student protests and the removal of the Cecil John Rhodes statue from the University of Cape Town. Though the students were not at the university in 2015, we had just experienced the 2016 #FeesMustFall student protests a few weeks earlier and the university had shut down from 19 September 2016 until 17 October 2016 due to these student protests.

The play, *The Fall* an example of political or 'Struggle theatre', was created by students from the drama department at the university and provided an alternative way for people to understand the 2015 #RhodesMustFall student protests. The multimodality in the theatrical production consisted of space, movement, voice, lighting and sound. I enabled the theatre visit in two significant ways, by providing the entrance fee and by asking Lera and Thabo who lived close to the university if they could each host Zara and Kagiso who lived in the townships of Khayelitsha and Delft. Zara and Kagiso lived about 45 to 90 minutes away from the theatre and there would be no public transport by the time the play ended. Lera who lived in a university residence and close to the Baxter theatre hosted Zara who lived in Delft and Thabo who lived in rented accommodation about 15 minutes away from the theatre hosted Kagiso, who lived in Khayelitsha, for the evening. Unfortunately, since Zinzi had two children under six years of age she could not attend the evening show and she was going to watch a week-end matinee performance whilst I and the other students took her children to the park. However, the matinee was cancelled and Zinzi was unable to watch the play. This was very disappointing for Zinzi and I and shows the constraints faced by single parents, especially single mothers with young children.

The significance of the theatre as a learning site

When I asked Zara to reflect on her experience of attending the play, she said that she didn't understand the cause of the student protests in 2015 until she saw the play. Zara said "With #FeesMustFall [2016], even when it started last year [2015 #RhodesMustFall student protest] I didn't understand, all I know was that people [students] wanted no fees because they can't [pay university fees], because they can't afford them". Zara's words reveal that though she was aware "I know", that students had no money to pay university fees and were calling for free subsidised

education, she also stated that she “didn’t understand” the historical background and context to the student protests. Zara went on to explain how distant events happening at a university can be for some communities. Since Zara had attended a historically black university during her undergraduate degree and had not experienced a university space saturated with colonial statues, paintings and signage as it was at the elite university, Zara said:

With #RhodesMustFall I was at UWC [University of the Western Cape]. I didn’t really understand #RhodesMustFall until I watched the play. So, it was sort of like, ok, this whole thing has to do with apartheid, this person that’s here [Rhodes represented by the statue] reminds people of the past and everything, so they [student protesters] felt like it was time for the person [Rhodes statue] to move.

(Extract 7.11. Zara on how the play, *The Fall*, helped her understand the #RhodesMustFall student protests)

Though Zara was able to make the link between the removal of the Rhodes statue and apartheid when she said, “this whole thing has to do with apartheid”, she does not link the ongoing concerns and constraints in 2016, with the coloniality experienced by black students at the elite university. Her later comments reveal her understanding of how omissions in the school curriculum around certain historical events in South Africa could influence how current events are understood and interpreted. She said:

At school they were teaching you about Hitler and Nazi Germany. Really a lot of learners don’t know African history. I think they’re only teaching it now [2016]. Cause I was surprised when my brother like [said] ‘No, I’m writing African History’...Cause I feel like, if at school they were teaching that history [African/ South African history] (Zara knocking on the table) we would know what was going on with Rhodes and we would understand [why], there was agency to remove that [statue].

(Extract 7.12. Zara reflecting on the lack of African history in her schooling)

In Extract 7.12 above, Zara reflects on how school history shapes and directs or misdirects learners’ understanding of the past and its effects on the present. As a result of the curriculum streams or strands in schools, learners who did science and mathematics would generally not do history after Grade 9. As Zara indicates, the

history that she learned was European or German history on “Hitler and Nazi Germany”. The focus in school history on European and German colonialism and nationalism left a gap in her knowledge of African and South African history. Zara’s words reveal how the play *The Fall* reminded her of the importance of history when she said, “Sometimes when you understand the history of things, you learn to appreciate them, and you learn to allow yourself to stand in that moment and be able to understand”. Zara’s words show how the play was an alternate route of information of events and also reveal how knowledge of history learned through watching the play, *The Fall*, influenced her understanding of the #RhodesMustFall and the #FeesMustFall student movements.

Zara comments further on how the student protests were perceived by the township community as unrelated to their daily challenges and hardship when she said:

When you’re listening to people in the township...’Rhodes doesn’t affect me, he’s at university, it doesn’t really matter’. We’re not looking at the generations to come and things like that...If we don’t start looking at this now, the people are going to grow up, there is a new generation, and they will be lost because they don’t even understand their own history.

(Extract 7.13. Zara on how communities interpreted the student protests)

Zara comments on the loss of knowledge of the anti-apartheid struggle and history to future generations of students and learners when she says, “people are going to grow up...there is a new generation, and they will be lost because they don’t even understand their own history”. The role of the play as an outside of university learning experience shows how significant it was for Zara to make historical connections to apartheid and the #RhodesMustFall student protest movement. Zara’s memories of school history such as learning about Nazi Germany did not help her understand the social and historical conditions that led to the student protests in South Africa that directly influenced her learning experience in 2016. Arguably then, when the students attended the play, the experience allowed them to become aware to some extent of different perceptions and representations of a series of events such as the #RhodesMustFall student protests.

Conclusion

The aim of this chapter was to encourage students to delink from the coloniality of their previous text-based and constrained experiences of learning, discussed in detail in Chapter 4, and reveal how an academic literacies facilitator used sites outside of the university to provide student teachers with access to multimodal spaces that could expand or increase their spatial, literacies and multimodal repertoire. I used Neely and Samura's (2011) argument that the spaces one has access to influences the texts one produces as well as Gutierrez's (2008) argument that students are "made smart" through social participation and through the use of artefacts. I argued that through visits to four sites, the Science Centre, the Natural History Museum, the ESRRRC student conference and the Baxter Theatre, the students were introduced to new spaces, activities, demonstrations and experiments that could stimulate their imaginative abilities, lead them to new interactions and increase the activities that students were able to perform as future teachers. Students also learned new patterns of participation in the spaces that they encountered. For example, while the theatre and student conference were spaces where the rules of participation and conventions of behaviour were covert and implicit, the rules and guidelines for activities were clear and accessible and the games and installations at the Science Centre allowed Thabo to realise that one can "play and learn at the same time" (Extract 7.5).

At the Science Centre students could also practice redoing things numerous times, make mistakes, recalibrate unsuccessful participation and return to incomplete activities without risk of censure or failure and without the pressure of time and performance. They could negotiate new experiences and figure things out without evaluation or competition. At the Science Centre students also saw demonstrations and ways to use everyday objects in scientific experiments and they could observe the use of scientific apparatus during experiments and demonstrations. Students could also learn from participation and learn the value of participation which includes reducing the fear of new experiences and unfamiliar new environments.

I have shown how delinking from a deficit view of students allowed me as facilitator and researcher to consider what constitutes PGCE coursework demands for science teachers and how students can be supported to meet these demands. In this chapter, I argued that sometimes the support needed was acquired through experiences in spaces outside of the university thus decentring the university as the only significant learning space. Arguably, the intervention contributed to a deeper understanding of what Stephens, Fryberg, Markus, Johnson, and Covarrubias (2012) has called “Cultural mismatch theory”. Cultural mismatch theory argues that students who are the first in their family’s to attend university experience a disjunct with university norms and practices which value middle class and elite cultural norms like independence. In contrast students who come from low resource communities “emphasize interdependence, including adjusting and responding to others’ needs, connecting to others, and being part of a community” (Stephens et al., 2012: 1179). As the research and data showed in Chapter 7 above, there are also patterns of access to spaces and places that influence both cultural and learning patterns. Chapter 7 demonstrated how specific cultural spaces and practices provide patterns of access to knowledge and experiences that many children and people from low-resourced schools and communities do not have access to. The cultural differences between communities thus occur across multiple levels, artefacts, movement, space, patterns of participation etc. Since upper- and middle-class children grow up with patterns of access, they may find it easier to meet some university demands as they have well-established resources and access to the implicit knowledge and systems drawn on at university.

Chapter 8: Conclusion

In the introductory chapter of this research, I stated that the challenges black students, especially working-class and multilingual students with English as an additional language, experienced in HE institutions are reflected in research that showed that a third of these students leave university before completing their second year; that black students specifically take longer to complete their courses; and that 50% less black students graduate than white students (Fataar, 2018: 597). As a result, black and/or working-class students are often institutionally described as 'underprepared', a descriptor that has been challenged by O'Shea (2016) who, argues that institutions should not label students as 'underprepared' and problematic without recognising the constraints these students face. Similarly, Fataar (2018) states that institutions are generally underprepared for black students arguing that in the decades post-apartheid black students continue to be underserved by HE institutions in South Africa. The aim of my research was both to understand how the coloniality of under-resourced schools as well as having English as the language of instruction, in schools where African languages are the dominant languages in use, influenced the challenges black students faced in meeting the demands of a teacher education programme at an elite English medium university. I designed and implemented an academic and multiliteracies intervention that supported the student teachers with learning the academic and multimodal literacies practices they required to pass their assessments and delink from their earlier experiences of English centred text-based rote learning. I argued that academic literacies practices for student teachers need to be expanded to include the multimodal practices required for being a science teacher and include the multilingual resources of the students.

The Research Design

My research took a qualitative approach which prioritises context and aims to understand the problem from the perspective of the research participants (Bogden

and Biklen, 1997), in my case, five African language speaking students who were becoming Science and Mathematics teachers. However, the focus of the research was on the Science learning and teaching. I used a single case study method which Miles (2015) argues allows the researcher to construct and offer the research as an example for readers to learn from. I also used ethnographic tools such as observation, interviewing, document collection and transcripts generated from audio and video recordings to construct data. My research focussed on four areas, supporting traditional forms of writing such as essays and the academic literacies of the Education core course of the PGCE programme; supporting discipline specific texts such as lesson plans and PowerPoint presentations used in teaching practice; and building the multilingual and multimodal practices of students which included supporting their access to sites and spaces that offered multimodal experiences and learning. I focussed only on supporting academic literacies for science content and not mathematics content because the students had only requested support with texts that dealt with science learning and teaching.

This case study was both descriptive and exploratory. It was descriptive in that it analysed coloniality in education by tracing the students' learning experiences from school through to postgraduate study. It also described the integrated scaffolding approach (Gibbons 2009) which included both the designed-in and contingent/interactional scaffolding that constituted the intervention. Examples of the designed-in aspects of the intervention were the essay preparatory workshops, one-to-one academic literacies sessions and the 5-day July holiday workshops. Examples of the contingent/interactional scaffolding are the sessions that took place without prior planning at the request of the student and these supported lesson plans and PowerPoint presentations. As part of the case study, I also experimented with how students could use their African language resources in science learning through the use of a translation exercise and I explored the role of multimodal spaces outside of the university in introducing students to a range of multimodal experiences through the observation of events, experiments and demonstrations and through their interaction with people and apparatus in these sites and spaces.

To constitute the case study and present the work as an example of academic literacies pedagogy and transformative practice, I drew on theories of literacies as

social practice and decolonial theory, taking a decolonial approach to academic literacies. The academic literacies theory I drew on included the research of Lillis (2001), a social practices approach to literacies (Lea and Street 1998; Ivanič 1998; Gee;1990), New Literacy Studies (1993), the Pedagogy of Multiliteracies of the New London Group (2000) and translanguaging theory through the work of Garcia and Kleifgen (2019). I drew from the work on decolonial theory by Mignolo (2007), Quijano (2007) and Ngugi wa 'Thiongo (1986). The concepts from decolonial theory used in this research were Mignolo's (2007) 'delinking', border thinking, entanglement, pluri-versality and Quijano's (2007) 'coloniality'. I argued for delinking from deficit views of African language speaking students and examined continuing patterns of coloniality in education brought about by the use of English as the medium of instruction. Part of addressing institutional deficit views of students involved demonstrating how constraints in the students' early learning contexts caused both compensatory practices and gaps in student learning which were not conducive to learning in HE. To demonstrate how student texts are shaped and influenced by context and social and discursive practices, I used Thematic Analysis (TA) (Clarke and Braun, 2017) and Fairclough's critical discourse analysis (CDA) framework, his "Three-dimensional conception of discourse" (1992: 73) as part of my analytical framework (2010: 133). I also used multimodal analysis, specifically the work of Kress, Jewitt, Ogborn et al (2014) and Jewitt (2008) to analyse and discuss the following multimodal aspects in the research: the activities of Day 2 of the 5-day July holiday workshops that were part of the intervention; how the modes worked together in science learning; and the "inventories of semiotic resources" (Jewitt, 2008: 6) that the students engaged in and experienced at the various sites they visited and how these contributed to the students' multimodal repertoires and academic writing.

The theoretical and analytical framework and research design were also important to answering my primary research question and the subsidiary questions. My main research question considered how a decolonial approach to academic literacies expanded selected multilingual students' repertoires of practice and their production of texts in a teacher education programme at an elite English medium university in South Africa. I argued that the research showed through the analysis of the literacies and language experiences of the student participants, how students who did not

have the requisite academic and multiliteracies practices could, through an integrated disciplinary approach that addressed the reading, writing and multimodal demands of a specific core module in their course, be guided to meeting the demands of the course, passing their assessments and to successful completion of the PGCE. Taking a decolonial approach to academic literacies allowed me to describe the patterns of coloniality and the effects of these on the students' experiences of schooling. My use of the double-movement of decoloniality, namely unveiling epistemic violence and giving voice to what was silenced and erased (Mignolo 2007), challenged monolingual English ideology that constructs multilingual students as lacking and allowed me to demonstrate the students' agency, self-learning and the amount of effort they put into learning. Students were thus repositioned more appropriately as capable and resourceful rather than deficient.

The first subsidiary question was, "What are African language speaking students' early experiences of coloniality in education and how do these influence their understanding of the academic literacies and teaching demands in postgraduate teacher education?". This question was answered in Chapter 4 and the data analysed to answer this question came primarily from interviews with the students. I answered this question by arguing, following Blommaert (2001: 13), that context should not be reduced to background and "a minimal set of observable and demonstrably consequential features". Similarly, Ivanič and Simpson (1992: 142) state that, learning about student context is part of "critical consciousness raising". Viewing the students' contexts and histories from the perspective of coloniality was a learning process that allowed me as the academic literacies facilitator to understand how the students' schooling shaped the language and literacies practices they drew on in HE. It also helped me understand Britzman's (2003) insight that teacher education is influenced by earlier experiences of school education. When student teachers are inexperienced or under pressure, they often enact what they observed and experienced as learners in schools referred to by Lortie (1975) and Borg (2004: 274) as the "apprenticeship of observation". I argue that in the South African context, students continue to be apprenticed into coloniality through their schooling and are positioned as linguistic outsiders. This positioning can be interrupted through a decolonial approach to academic literacies that questions the dominance of English and that centres the local context and indigenous African languages. A decolonial

approach to academic literacies demonstrated how Anglonormativity (McKinney, 2017) shaped student learning in primary, secondary and tertiary education and pointed toward the need for teacher training and education in bi/multilingual pedagogy and for the acceptance of translanguaging and the full multilingual repertoire of African language speaking students.

The second subsidiary question, “How can one support African language speaking students with degrees in Science in learning the academic and multimodal practices required in teacher education?” was answered in Chapter 5. The data analysed in this chapter was drawn from interviews with the students, samples of student writing as well as images of workshop slides and PowerPoint slides. To assist students with learning the practices necessary to succeed in passing their assignments, I used the aspects of the Pedagogy of Multiliteracies, Situated Practice, Overt Instruction, Critical Framing and Transformed Practice. I situated the academic literacies intervention so that it met the disciplinary demands of teaching practice and the PGCE programme.

In Part 2 of Chapter 5, I discussed supporting students with writing lesson plans which is not a traditional form of essayist literacy, but a professional genre that is specific to teacher education. I used contingent/interactional scaffolding which occurs in the moment-to-moment interaction with the student since the scaffolding occurred as a result of Lera’s request for help after receiving a low mark for TP1. Offering Lera support with her lesson plan and PowerPoint presentation involved talk and questions around her texts (Lillis 2008; Ivanič 1998) and I drew on Fairclough’s view of intertextuality (1992: 84) and intertextual chains (2010: 420) to retrace the textual path and experiences that led to the production of Lera’s unsuccessful lesson plan.

I experienced several learning points and points of illumination during the interactional scaffolding Lera and I engaged in. These were that the intertextual chain for creating a lesson plan and corresponding PowerPoint presentation involved reading multiple texts like the Teaching Practice Handbook, the Department of Basic Education’s curriculum documents for each grade, multiple textbooks, mentor teacher texts and directions as well as internet articles and multimedia. The required

process of selection, reading, integration, and representation are often not scaffolded and can be quite complex to learn in a short space of time. I had to acknowledge Lera's difficulty as not only arising from a student with very little previous experience with academic reading and writing practices, but this also demonstrated part of the role of the academic literacies researcher within the institution which is to reveal the complexity of writing and literacies learning and make this complexity visible institutionally as a means to justify the need for continued institutional resources for academic literacies support. Academic literacies support should, as Devereux and Wilson argue, provide students with "time and ample opportunities for practice... to develop skill in writing across diverse genres and registers" (2008:124). Another point of learning was how the lesson plan as text could influence teaching and learning in the classroom. After discussions with Lera and an examination of her lesson plan, I realised that part of Lera's problem with managing time, and completing a lesson in 45 minutes, was traced to the absence of time allocations on her lesson plan and that the structure of the lesson plan should be standardised according to method or subject so that the student teacher could clearly allocate specific time to the different parts that constituted the lesson.

The third subsidiary question, "How can student teachers be encouraged to use their African languages as a resource to develop bilingual/translanguaging pedagogy for Science teaching in an officially monolingual English education system?" is answered in Part Two of Chapter 6. Here, I focus specifically on Activity 4 of Day 2 (of the 5-day July holiday workshops), a translation exercise, where I investigated how the students' African languages could be used as a resource for science learning. Activity 2 involved asking the students which 'difficult' words of an experiment on creating an electromagnet they would translate for their learners. The aim of the experiment or exercise was to understand the constraints and affordances of translation in science in an attempt to understand how translation and translanguaging could be used pedagogically since teachers are not trained in bilingual/multilingual teaching practices. Unlike glossaries and dictionaries, where the list of words that are translated are preselected, the advantage of the translation exercise was that the students chose the word "stripped" which demonstrated that students may have trouble understanding the meta-language of science as much as the scientific concepts ordinarily translated by dictionaries and glossaries.

The translation exercise also highlighted the complexities of translation in a multilingual classroom, for example, when translating from English to an African language, which language to select for translation could be difficult if the classroom environment is linguistically heterogenous. The exercise highlighted that before translating a term or word, the teacher has to understand the meaning of the word or the translation could be too removed from the context of the Science classroom, for example, translating “stripped” to “pluck” may be more acceptable than using the word “grind”. Another important learning point from this exercise was that published translations and dictionaries often translate from standard English to the standard version of another language (e.g., isiXhosa, isiZulu or Setswana) but most people in urban areas mix or translanguage so translation needs to include urban language varieties as well. It is the movement between the range, from the standard language to and inclusive of the language varieties, that supports the most inclusive form of learning from a language in education perspective. Most importantly, the translation exercise built upon the Language and literacy in multilingual schooling module from their Education core course, and in doing so continued the work of helping students understand and gain a level of acceptance of translanguaging or moving between African languages and English in a bilingual/ multilingual classroom context.

Chapter 7 answers the fourth and final subsidiary research question, “What role do spaces outside of the university campus play in developing students’ identities as science teachers and in their construction of multimodal repertoires?”. In Chapter 7, I considered how I, in my role as academic literacies facilitator, could provide the students with access to spaces that would allow them to observe, experience and engage with the multimodal aspects of being a science teacher. I argued that though the science teaching methods courses provided access to multimodal experiences, I needed to expand this learning by introducing students to spaces outside of the university that are specially curated for multimodal experiences. I chose four spaces: the Cape Town Science Centre, the South African Natural History Museum, a student conference (ESRRC) and a play, *The Fall*, at the Baxter Theatre. I argued that students’ access to these spaces was important for the following reasons: from an academic literacies perspective, writing is a social practice and so the texts students had access to influenced the texts they produced; from a decolonial perspective, introducing students to additional spaces allowed the students to delink

from narrow spatial trajectories where they travelled from their living space to university and back as a result of constrained resources. I argued that educationally, these spaces could improve students' lesson plans (their text production) because spaces like the Science Centre and Natural History Museum could support the development of their pedagogical content knowledge.

I contrasted the teaching practice experiences of Zara at a resource rich school with that of Lera at a resource poor school and showed how the school's teaching environment and the mentor teacher shaped what the student teacher practiced. While Zara learned to use multiple modes in science teaching, Lera at a resource poor school was told to skip experiments as the school did not have a laboratory. I also analysed student experiences at all four sites and used data from interviews with the students as evidence as well as photographs. I used Zara's multiple experiences around visible light to demonstrate how three related experiences, reading a book on science experiments, visiting the Science Centre and experiencing the visible light demonstration enabled her to teach "Visible Light" as a topic to Grade 8 learners with confidence that allowed her to perform a demonstration on visible light. The significance of the visit to the Natural History Museum was revealed through Zara's comment on how seeing a process like food chains in a three-dimensional representation helped her understand the process better. For students like Zara who had experienced mainly text and textbook-based Science learning, the Natural History Museum provided access to new information, 3-dimensional presentations that offered observers information on settings, colour, texture, scale and sound.

The third out-of-university space the students experienced was a postgraduate education student conference, where they attended a presentation on mathematics in multilingual rural secondary school classrooms. Drawing again on Zara's experience, I analysed how attending the presentation allowed Zara to consider the role of language in mathematics and realise that mathematics is not just about symbols as the questions are written in English learners therefore needed to understand English before they could answer the questions and get to the mathematical representation. The fourth and final out-of-university site the students visited was the Baxter Theatre to see the play *The Fall*. The visit to the theatre was

not only about introducing students to new spaces but watching the play allowed the students to understand the 2015 and 2016 student protests in a more nuanced way. Zara for example said that watching the play provided an alternative source of information on the student protests, an alternative (his/her) story. One aspect of the intervention discussed in Chapter 7 that could have been improved was the use of the worksheet in alternative learning spaces. I could have read through the worksheet with the students prior to the Science Centre visit so that students could identify the curricular themes they wanted to focus on. Once we arrived at the site, the students and I could first go on a walking tour to link curricular content with the exhibits. Once the students had this information and answered the worksheet, the students could then have explored the site on their own.

Limitations of the study and suggestions for practice

This research was a single case study participant intervention with five participants based on six months data collection from May to December 2016. One of the limitations of a small-scale interpretive case study is that it is not generalisable and the efficacy of the intervention with a much larger group of students is untested and therefore unknown. Also, as the facilitator supporting the students' academic literacies, this was my primary focus, and I could allocate as much time as the students required. The amount of time I spent may not be available to university lecturers with many teaching and other demands. But the focus on small group tutoring or facilitation can also be seen as a strength since the large-scale lectures and group tutorials have not really been a productive learning space for the most vulnerable students.

In Chapter 5, where I discussed scaffolding academic literacies across the PGCE, I noted the difficulty of measuring student progress in writing because it is different for each student and may happen in multiple or various areas of writing or the writing process. However, through my analysis of my process and the step-by-step scaffolding approach I used, I was able to show how a student who had no significant previous experience with academic writing could be supported to move from failing an essay and the first teaching practice to successful writing and teaching practice repertoires that allowed her to pass the PGCE.

Future research

Aspects of the research which can benefit from future focus is supporting student teachers in the use of bilingual and multilingual pedagogy in teaching practice as this will be of significant benefit to Education and to the majority of learners and teachers in South Africa who are in schools where multilingualism is the norm. This should include research that identifies which bi/multilingual practices are more suited to certain school contexts and lead to learner success. Another focus for future research is further analysis of multimodal practices and how these intersect with academic literacies and teaching practice. Included in this is working with a subject lecturer to understand the disciplinary writing and multimodal demands in a deeper way. A third aspect for future research is to focus in greater detail on academic literacies pedagogy in teacher education. A fourth focus of future research could be equitable assessment practices that include the students' and learners' multiple language resources and are more inclusive than the current practice of using English as the language of assessment.

Contribution to knowledge

My research contributes to the fields of academic literacies as well as science teacher education in a context of coloniality. In bringing together a decolonial approach or aspects of decolonial theory with academic literacies for student teachers, I was able to explore how the students were apprenticed into the coloniality of schooling and the continuing consequences of this apprenticeship. Through the detailed analysis of the students' experiences, I was able to show how they were systematically positioned as linguistic outsiders by the language policy implemented in schools and at university. I contributed to "critical consciousness raising" (Ivanič and Simpson, 1992) around the students' experience and in doing so, demonstrated the need for change in education. I was also able to show the centrality of language and the role an institutional policy, like the language of instruction policy, played in constituting a colonial matrix that transformative academic literacies addresses and challenges. I was able to describe the position of an academic literacies researcher, using the decolonial term "entangled" as I was both supporting student access to

standard English and essayist literacy practices whilst investigating how students' African languages could be used as a resource. In the translation exercise on using the students' African languages for science learning. I was able to demonstrate what Mignolo (2007) calls border thinking which "allows you to imagine possible futures in which the richness of thought and creativity in language comes from the borders" (Delgado, Robero and Mignolo, 2000: 11). This translation exercise allowed me to understand in a more detailed way considerations such as selecting the language of translation and constraints such as the time taken to perform this exercise. Mignolo's concept of "border-thinking" allowed me to resolve the entanglement of a transformative position in academic literacies whilst holding the importance of language rights and use of language as a resource (Ruiz 1984), translanguaging and viewing languages as part of the multiplicity of modes. The exercise contributed to my (and possible other's) understanding of the process of knowledge-making through translation between English and African languages, the importance of translanguaging practices and underlined the need for support of these practices in the field of Education and Language in Education in contexts of coloniality.

It was important to disrupt the coloniality of language and through the experiences of students show the centrality of language in academic literacies as well as foreground multilingualism which Stein and Newfield (2006) as well as Garcia and Kleifgen (2019) argue has been largely overlooked in multiliteracies research. This has important implications for how African language/English speaking multilinguals are positioned in English dominant universities. It also demonstrates how academic literacies need to address language ideologies and the dominance of a monolingual and Anglonormative approach (McKinney, 2017) in contexts of coloniality.

Implications for academic literacies pedagogy

My study showed how academic literacies for student teachers including reading and writing is part of a broader repertoire of practices which is responsive to educational, social, and disciplinary context. Clark (1992) notes that when academic literacies focus on students' subject-specific coursework, students learning is directed, and they are willing to put in the time to improve their work. Jacobs (2013) makes a similar point that academic literacies work is most effective working within the

disciplines on specific lecturer or student initiatives. Another implication for academic literacies research is around scaffolding academic literacies tasks and supporting feedback which Devereux and Wilson state can and should come at different stages for example, “Some of this support can be given before the writing task itself, some can be given during the writing process, and some can be given afterwards in various forms of feedback” (2008: 130). I found this to be true of writing essays but also for writing lesson plans and designing PowerPoint presentations. The feedback after the essay has been assessed is undermined by the fact that these assessments come at the end of a module and this feedback is often overlooked or eclipsed under the pressure to understand a new module and new challenges which is greater than re-examining something that has already been passed. I would recommend that students be taught the academic literacies practices for academic writing and professional writing such as lesson plans and PowerPoint presentations in a course designed to focus on meeting the academic writing demands of core or significant courses.

Implications for teacher education

The study has highlighted the importance of student-teachers' context and their prior educational experiences to better understand what Britzman (2003) calls their “school biography” and what Borge calls their “apprenticeship of observation”. Both of these ideas refer to the way student teacher practices are influenced and shaped by practices they learned watching their schoolteachers (Borg 2004; Lortie 1975). In my research, coming to understand this context as one of apprenticeship into coloniality not only revealed the students' experience of rote learning and textbook-restricted pedagogy, but also provided understanding of what it meant for the students and for learning when a person's language resources are excluded. The results of this include being silenced and positioned as incapable. A decolonial approach allowed me to reposition the students as capable and located the problem in how the system and lingering colonial ideologies of language and literacy have shaped and failed them rather than that the students themselves are failures.

The study also highlighted the need for academic literacies support for student teachers who do not have prior experience in the requisite academic and multimodal literacies if these students are to delink from the coloniality of schooling or break the cycle of replicating knowledge gaps in the learners they will teach. The study has shown how important it is for student teachers to “understand the relationship between language, learning and society” (Lancaster and Taylor 1992: 257). And that student teachers must learn to build critical language awareness “from the existing language capabilities and experience of the child” (Lancaster and Taylor 1992: 257) rather than erasing or discounting learners’ African language resources. The research has shown the need for bi/multilingual pedagogy in science and that this is the next stage of using multilingualism as a resource as well as some of the criteria to be considered in translation activities.

Finally, this research was aimed at making visible the literacies practices and labour of students and the academic and multiliteracies work of a researcher in the field. It revealed the bridging role academic and multiliteracies work plays institutionally and the need for a clearer understanding of multilinguals’ learning experiences in an education system oriented to fulfilling monolingual ideology. It highlighted the need for scaffolding or bridging pedagogy between the students’ African language resources and English learning content as well as the need for knowledge creation in languages other than English in a multilingual context. In doing so, it demonstrated Mignolo's point, previously stated, that it will take “the shared work and common goals” of everyone inhabiting the many co-existing worlds “where differences are not cast in terms of values of plus and minus degree of humanity” (2007: 499). Academic and multiliteracies are fields engaged in transforming institutional practice, point to where change is needed and are therefore part of the decolonial and transformative process. This engagement involves making changes by providing a learning experience that is not based on trauma and loss, but rather supportive of decoloniality and pluri-versality, or as Mignolo states “a world in which many worlds could co-exist” (2007: 499).

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Appendices

Appendix A1 – Example of research information letter for students

Dear _____

My name is Soraya Abdulatief, and I would like to invite you to join and participate in a research project that forms part of my PhD degree at the University of Cape Town. The aim of this research is to investigate the constraints of black PGCE students in every aspect of their course including Teaching Practice and literacy and writing practices.

I will facilitate writing workshops that will assist you with reading, writing, and analysing texts. In the workshops, I will teach you academic literacy and how to decode and analyse academic articles. We will also focus on improving your writing and you will learn how to construct a written argument and write an analytical essay. You will be asked to participate in group work or to work in pairs. I would also like to know what you think about the way the class is run, how you are finding my teaching and the content of the workshops.

With your agreement and permission, these workshops will happen once a week for 90 minutes until the end of October 2016. The workshops are structured around readings from the PGCE course and essays required in the PGCE course. I will observe your discussions and interaction and I will video-record each workshop. I will also have two twenty-minute interviews, one at the start of the series of workshops and one at the end of the series of workshops. I would like to ask your permission to record the workshops and audio-record the interviews and writing sessions so that I can be sure that you agree with my interpretation of your writing or behaviour. You can decide that you do not want to participate in the research, you can stop participating at any time and you will not be disadvantaged if you do not take part in the study. If you have any questions, I will gladly explain things in more detail.

Attached to this letter of request are five forms where you provide permission to participate in the research activities. Could you please fill in your name and sign the form if you want to participate. Please leave the form or section blank if you do not want to participate in the research.

Yours sincerely
Soraya Abdulatief

Appendix A2: Example of student data capturing consent forms 1- 5

1. Student Consent Form - Classroom observation

I _____ consent to being observed and the observations documented in the classroom during class time by Soraya Abdulatief for her study on literacy and writing in education. I understand that:

- My name will not be revealed to anybody because I will choose a false name
- I will not be disadvantaged if I choose not to participate, and my interactions will be disregarded and ignored if I choose not to participate in the study

Signed _____

Date _____

2. Student Consent Form – Video recording

I _____ consent to being video recorded by Soraya Abdulatief for her study on literacy and writing in education.

- the video recording will not be seen or heard by any persons other than the researcher and her supervisor at any time unless used for teaching or research when the video will be digitally distorted so that the participants are not recognizable
- I will be given a false name and my name will never be revealed in any discussion of the research.
- I can withdraw from the research at any time
- If I choose not to participate in the study, my actions will not be transcribed, and I will not be disadvantaged in any way.

Signed _____

Date _____

3. Student Consent Form – Interviews

I _____ consent to being interviewed by Soraya Abdulatief for her study on literacy and writing practice in education. I understand that:

- My participation in the interview is completely voluntary
- Each interview will take between 45 and 60 minutes
- I can refuse to answer any and all questions posed to me
- I can withdraw from the study if I want at any time
- My responses will be confidential and there will be no information that can identify me in the report

Signed _____

Date _____

4. Student Consent Form – Audio recording of interviews, workshops, and literacies sessions

I _____ consent to being audio recorded by Soraya Abdulatief for her study on literacy and writing practice in education and I understand that:

- I will be given a pseudonym (false name)
- The tape recording will only be heard by the researchers
- My participation in the interview is completely voluntary
- Each interview will take between 45 and 60 minutes
- I can refuse to answer any and all questions posed to me
- I can withdraw from the study if I want at any time
- My responses will be confidential and there will be no information that can identify me in the report

Signed _____

Date _____

5. Student Consent Form – Written or creative work produced

I _____ consent to Soraya Abdulatief using any and all texts, that I produce including digital texts, for her study on literacy and writing practice in education. I understand that:

- Submitting my writing and artifacts (including creative work and blog entries) is completely voluntary
- I can refuse to answer any and all questions posed to me about my work
- I can withdraw from the study if I want at any time
- My responses will be confidential and there will be no information that can identify me in the report

Signed _____

Date _____

Appendix A3: Literacy History Interview Questions

Literacy History Interview Questions:

1. What are your home languages?

2. Do you use different languages with different people at home?

3. What languages did you use at school, in the classroom?

4. Can you tell me about your experiences of language and learning at school?

5. What was it like learning in English when you were an undergraduate at university?

6. What kind of writing did you do at university, e.g., like essays or reports or case studies?

7. Did you attend any classes or workshops or courses on academic writing at university?

8. When did you decided to do your PGCE?

9. Can you tell me about your experiences of language and learning at this university?

10. Can you tell me about your experiences of academic reading and writing in the PGCE?

Appendix B: Feedback Questions

Feedback Questions: Student Experiences of the Intervention and Workshops

1. Which part of the workshops were easy to understand?

2. Which part of the workshops were hard to understand?

3. Which part or parts of the workshops (if any) do you think you can apply later on your own?

4. Did I restate important points; gave clear examples or illustrations; used terms familiar to you; indicate links to other parts of the subject and explain points or issues clearly?

5. Do you think what we have done has helped with the other essays and writing for other modules?

6. Did the lectures of the Language and Literacy in Multilingual Schooling module and the workshops we did affect the way that you view language use in the classroom?

9. Can you tell me whether you found the visits to the sites useful. The Science Centre, SA Museum, ESRRRC conference and the play, *The Fall*?


10. Any other comments?

Appendix C: Figure 3.2. PhD Intervention Research Timeline and Events (pg. 62)

PHD Intervention Research Timeline and Events

Date	Academic Literacies (AcLits)	Content	Time
3 March 2016	Essay preparation presentation	History of Education essay preparation for PGCE students in lecture hall	45 mins
14 March	Workshop	Introduction to critical literacy I	60 mins
22 March	Workshop	Classroom Discourse essay preparation	60 mins
18 May – 10 June	One-to-one AcLits sessions	Classroom Discourse essay - (2x2, 60min sessions Lera and Kagiso+ 2x45min sessions) (2x3x45min sessions – Zara, Zinzi and Thabo)	600 mins
11 – 15 July	5x Workshops and (3x) site visits	5-Day July Holiday Workshops (5x120mins a day) + Site visits (90minsx3) Lera's lesson plan analysis and revision (120 mins)	990 mins
30 Aug – 6 Sept	One-to-one AcLits sessions	Ethical Decision-making assignment - (2x, 60min sessions Lera and Kagiso) (3x45min sessions – Zara, Zinzi and Thabo)	255 mins
2 – 3 Sept	Site Visit	ESRRC, Education Student Conference	150 mins
5 Sept – 16 Nov	Interviews	Detailed literacy history and intervention feedback (5x 40min)	200 mins
5 – 7 Sept	One-to-one AcLits sessions	Book review drafts (5x1 sessions per student) at 45min a session	225 mins
14 Sept	Essay preparation session	Curriculum theory essay assignment	30 mins
19 Sept	#FeesMustFall Student Protests	University suspends classes, tests, lectures due to student protests	
21 Sept	Essay preparation session	Curriculum theory essay assignment	60 mins
5 – 11 Oct	One-to-one AcLits sessions	Curriculum theory assignment draft (5x 40minsession per student)	200 mins
17 Oct	University reopens	University Classes resume, limited in person and online	
18 Oct	Site visit	Baxter Theatre - The Fall	120mins
20 Oct	Essay preparation session	Long Essay assignment	120 mins
21Oct – 14 Nov	One-to-One AcLits sessions	Social positioning of learners and social justice essay assignment (5x40 min per student)	200 mins
	One-to-one AcLits sessions	Teacher Professionalism essay assignment (5x40min per student)	200 mins
	One-to-one AcLits sessions	Long Essay - (2x2x60 mins) and (3x2x45 mins) sessions per student	510 mins
Total Time		4025 mins ÷ 60mins = 67.08hrs	4025mins

Appendix C1: Essay Preparation Presentation - PGCE Assignment 1: History of Education Essay



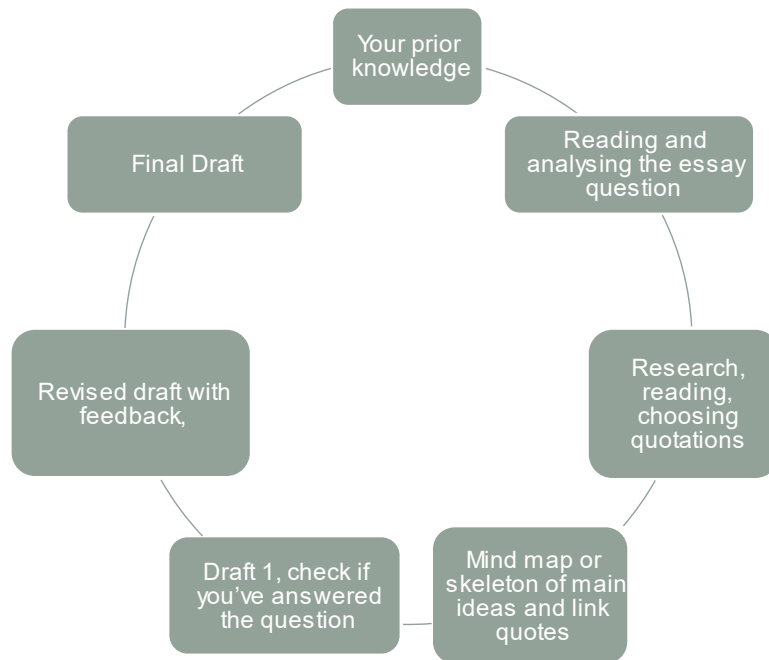
ESSAY PREPARATION PGCE ASSIGNMENT 1: HISTORY OF EDUCATION ESSAY

Soraya Abdulatief
PhD candidate School of Education
3 March 2016

Workshop structure

1. Academic essay writing cycle
2. Assignment 1 essay questions
3. Task analysis
4. Doing research and critical reading
5. Planning your essay structure
6. Your argument and paragraph structure
7. An example of essay structure
8. Checking your essay for coherence
9. Using the appropriate register and tone
10. Managing sources and in-text referencing
11. Writing a conclusion
12. Referencing
13. Reference list/bibliography
14. Plagiarism
15. Editing checklist
16. References

1. Academic essay writing cycle



2. Assignment 1: Questions

- Question 1:
 - ‘Why is an understanding of our educational history important for teaching and learning today?’
- Question 2:
 - Learner performance in South Africa is characterised by uneven and unequal outcomes at all levels of the system. Write an essay analysing why this is the case and beyond this what might be the sources of the problem. You may choose to focus on the system as a whole or on a particular level (e.g. primary, secondary or post-school).

3. Task analysis Identifying key words in the question

Understanding the question is key to providing an answer

A question has three components:

subject matter Instructions

constraints

Steps:

1. Identify and decipher the instruction words or phrases (the *doing* words) [e.g. argue, discuss, analyse (analyse, means break up into parts; investigate)]
 - Each instruction word in the question shapes the written answer
2. Identify the major subject areas of focus [Q1 – education history, context, teaching and learning] [Q2 – learner performance, uneven outcomes, focus on the system of education in SA or schooling as influenced by educational history]
3. Constraints are the words that provide boundaries or limitation to your research and essay (e.g. a specific time period, system, location or context)

4. Doing research and critical reading

- How many readings should you do? At least two or three. Start or complete those in your coursework linked to your essay question and then work from there
- Read with the assignment questions in mind, ask yourself, what is Soudien and Smith's point? What evidence do they use and how do they weave or introduce the evidence to the reader?
- What are the main ideas of the argument (look at the start of the paragraph or for words that state the main idea or argument)
- How does this argument relate to my experience and how does it relate to the essay question?

5.Planning your essay structure

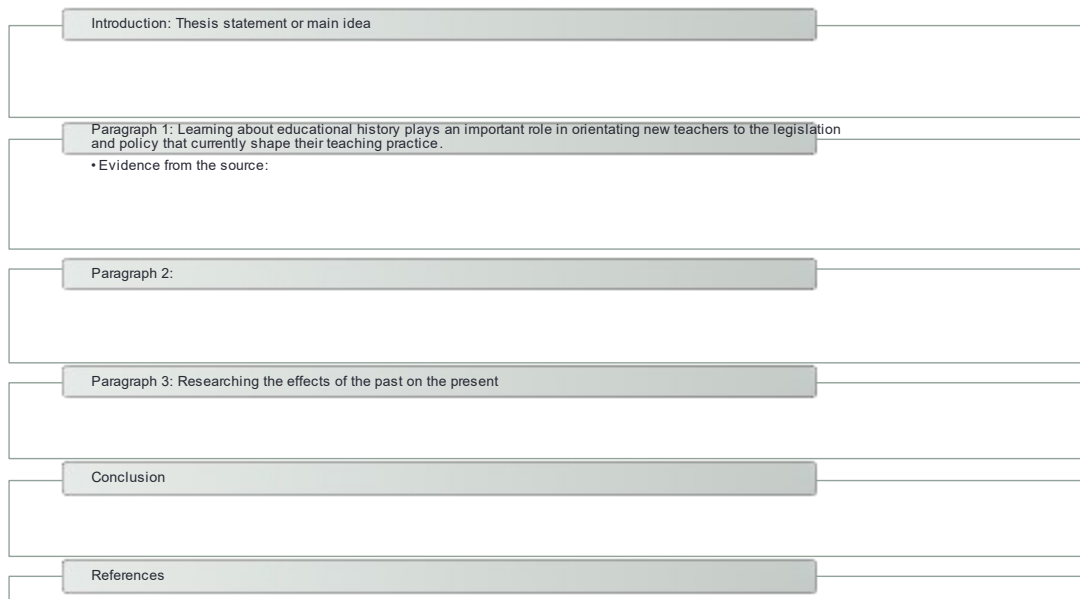
- **Introduction**

- - contains your thesis statement and answer to the question
- - sets the context and time (e.g The educational context in South Africa today or the uneven outcomes in primary schools/high schools/ higher education)
- - may include your main sources or theoretical framework e.g. 'My arguments are supported by the work of researchers such as, Soudien (2007) and Smith (2011)'.
- - may contain a 'road map' or plan for the essay (e.g. 'The aim of the essay is to discuss three reasons why learner achievements are uneven in primary school in South Africa. I start my discussion by looking at these aspects of educational history....Next I ...Finally I end this essay with suggestions or further questions (supported by other sources) that need to be considered.

6. Your argument and paragraph structure

- **The body or main section of your essay** consists of different paragraphs and each paragraph focuses on a reason (outlined in your mind map) on why educational history is important e.g.
- **Each paragraph has a structure :**
 - 1. A paragraph starts with a topic sentence that informs the reader what the paragraph will be about.
 - 2. It may include another sentence that elaborates on the topic sentence.
 - 3. You must provide evidence that supports your paragraph topic sentence through a supportive quote or data
 - Link the evidence through analysis or explanation to the topic sentence
 - 5. You may also include a sentence to link to the next paragraph

7. An example of essay structure



8. Checking your essay for coherence:

Ask yourself...

1. If I read the introduction and the first sentence of each paragraph as well as the conclusion of my text, can I see the argument?
2. If I read each paragraph, are the content and the quotations in the paragraph relevant and necessary to prove my argument?
3. If I read a sentence, does it link logically to the sentences before and after it?

- You may use “connectives associated with reasoning (therefore, so, because of, the first reason, etc.) to link sentences and paragraphs” (Derewianka 1990: 78)

9. Using the appropriate register and tone

- Register refers to the formality of a text
- Analytical essays have a formal tone due to the writer's use of the third person. Writers do this by removing the personal pronoun 'I' and then assume a representative and more authoritative voice. e.g. 'The aim of this essay is to argue that' or 'This essay will discuss'
- In Social Science and Humanities writing it is acceptable to use the first person or shift from first person to third person the way Soudien does e.g. "In this essay I argue that the substance of these manifestations is shaped by both structural and cultural influences and that policy innovation is required" (2007: 184).
- Tone is revealed via the modality or force of the words you use e.g. words like 'must' and 'should' have strong modality. Academic writers use a lower/softer modality using words like "could or may" and critically question the use of strong modality especially if they are unsupported E.g. "Low socioeconomic status must be considered the main reason for low learner achievement in schools"
- There could also be research that you've never heard of that contradicts your claim. So the academic writers use a soft modality that "leaves room for negotiation by using words such as 'nearly', 'often', 'most', 'generally', 'tend to', 'might', etc." (Derewianka 1990: 80).
- E.g. "Low socioeconomic status **can be** considered **one of the** significant reasons for low learner achievement in schools"

10. Managing sources and text referencing

- Remember:
- Paraphrase, use the thesaurus and dictionary e.g. dictionary.com
- Create a list of connectors
- Be aware of your modality, in academic writing we use a weak modality (example could, may)

- Paraphrase the following and turn it into a question by:
- Reading the quotation twice or thrice then underlining all the words you think need to be changed or substituted
- Then use your phones or devices and go to dictionary.com- thesaurus and look up all the underlined words and **find synonyms but remember that you want to keep the meaning the same.**

- Smith's Quotation: "In reviewing school effects models for South Africa one emerging question is whether recent policies focussed on reducing inequalities in school physical resourcing levels as a precursor to raising pupil attainment are working for the less wealthy learners?" (Smith 2011: 82)

- Paraphrase examples:
- Smith wants us to consider if (whether) new (recent) policies aimed at increasing (raising) pupil achievement (pupil attainment) by increasing the infrastructure/resources (physical resources) of low income (less wealthy) learners at poor schools are working?
- OR: Smith questions if the current policies aimed at increasing the physical resources at schools in order to improve learner achievement is working for poorer/ under privileged pupils? (2011: 82).
- do
- do

11. Writing a conclusion

- Summarise your argument and the main points you mapped or stated in your essay and in your introduction. Read through the whole essay and make a note of your main points and then make sure you mention these points in your introduction and conclusion.
 - See Soudien's concluding paragraph where he restates what he is trying to demonstrate (it sounds like an introduction but it isn't):
 - "The discussion begins with an overview of the country's achievements and failures in education and then proceeds, towards developing an analytic framework, to the task of explaining what the nature of its balance sheet is. In conclusion it makes some suggestions about a way forward" (Soudien 2007: 183)
-

12. Referencing

- Education uses the Harvard method (Please use the online version or course booklet and keep it near you when you write (even your draft):
 - In-text Option 1: (Surname Year)
 - However: (Surname, Year) or (Surname, Year: Page)
 - In-text Option 2: Surname (Year) argues...
 - However: Surname argues (Year).
-

13. Reference Lists/ bibliography

- Please consult your School of Education handbook for examples on the appropriate way to do a bibliography
 - List in alphabetical order
 - Surname, Name/ Initial. Date. Title. Place: Publication
 - Surname, Name/ Initial. Date. Title. Title of Journal, Volume(Issue): Page – page.
-

14. Plagiarism

- Intentional and unintentional copying and/or use of facts, ideas, statements, visuals

Avoiding plagiarism:

- Acknowledge EVERYTHING.
 - Learn to be good at paraphrasing
 - Learn to be strict with your references
 - Cite/ reference correctly.
-

15.Editing checklist:

- Check that each paragraph fulfils its particular function
- Check that your sources have been incorporated into your arguments
- Check for low level errors
- Check bibliography (pay attention to detail)

16. References

- Derewianka, B (1990). *Exploring How Texts Work*. Victoria, Australia: McPherson's Printing Group.
 - Soudien, C (2007). "The "A" factor: Coming to terms with the question of legacy in South African education". *International Journal of Educational Development* 27, 182–193.
 - Smith, M., C (2011). "Which in and out of school factors explain variations in learning across different socio economic groups? Findings from South Africa". *Comparative Education*, 47:1, 79-102.
-

Appendix D: Figure 3.3. Activities of the 5-day July holiday Workshops (11-15 July 2016) (pg. 66)

5-day July Holiday Workshop (11-15 July 2016 – Time spent, 990 mins or 16.5hours)

Date	Activity	Content	PhD Chapter	Attended	Time
11 July, Monday	Workshop	*Focus on academic reading and writing using Ernest Morrell's (2008) Critical Literacy and Urban Youth, 2 nd Chapter "From Plato to Poststructuralism" focussing on Introduction, sub-headings and argument structure and conclusion		Lera, Zinzi, Zara, Thabo and Kagiso	10am – 12pm (120 mins)
12 July, Tuesday	Workshop and Science Centre visit	*Focus on multimodality and multiliteracies. Interactive and experiential learning, brainteaser, science experiments on circuits and electromagnets, report writing and using multilingualism as a resource. *Science Centre visit and worksheet	Chapter 6	Lera, Zinzi, Zara, Thabo and Kagiso	10am – 12pm and 1- 2:30pm (120 + 90 =210 mins)
13 July, Wednesday	Workshop and Science Centre visit	*Focus on Derewianka (1990) "How texts work", differences between discussion and argument genres and discussion on Site visit worksheet *Visit to the Science Centre, visible light and Camera Obscura experience.	Extracts in Chapter 6, Part Two and Chapter 7	Lera, Zinzi, Zara and Thabo	10am – 12pm and 1- 2:30pm (120 + 90 =210 mins)
	Lera Lesson Plan Aclits session	Scaffolding a Lesson Plan and PowerPoint presentation, Aclits session on Grade 9 Science "Reactions of Non-Metals with Oxygen"	Chapter 5, Part Two	Lera	5-7pm (120 mins)
14 July, Thursday	Workshop and Book Review	*Focus on lesson plan and PowerPoint presentations with Lera playing the role of facilitator *Focus on book review, examining model texts, talking through Lera, Zinzi and Zara's book choices and opinions on the books	Extracts in Chapter 5, Part Two	Lera, Zinzi, Zara,	10am – 12pm (120 mins)
15 July, Friday	Workshop TP Journals and SA Natural History Museum visit	*Focus on the Long Essay, discussing "What is knowledge" one of the options in the essay question. *Zinzi and Thabo request a revision session on lesson planning and using a video in a PowerPoint presentation -Visit to the SA Natural History Museum	Extracts in Chapter 7, SA Natural History Museum site visit only	Lera, Zinzi, Zara and Thabo	10am – 12pm and 1- 2:30pm (120 + 90 =210 mins)

Appendix E: Figure 3.5. Total data set collected (pg. 69)

Total data set collected in this research

Type of data	Data collection categories	Description of what was collected
Audio recordings, with 1 audio recorder	One-to-one AcLits sessions	Classroom discourse essay; Ethical decision-making assignment; Book reviews; Curriculum theory essay; Social positioning of learners and social justice essay assignment; Teacher Professionalism essay assignment; Long essay; Lesson plan analysis and revision; Revised failed essays
	Essay preparation workshops and discussion sessions	Classroom discourse essay; Ethical decision-making assignment; Book reviews; Curriculum theory essay; Social positioning of learners and social justice essay assignment; Teacher Professionalism essay assignment; Long essay; Lesson plan analysis and revision; Revised failed essays
	5-Day July holiday workshop –	Workshops (x5days)
Video recordings	One-to-one AcLits sessions	Classroom discourse essay
	5-Day July holiday workshop	5 x daily workshops
Photographs		5-Day July holiday workshop science experiments; workshop content; site visits to Science Centre (x2) and SA Museum
Documents	PGCE Handbooks	PGCE Programme Info Handbook and TP Handbook 2016
	Written assessments and drafts	5 x copies of Classroom discourse essay; Ethical decision-making; Book reviews; Curriculum theory essay; Social positioning of learners assignment; Teacher Professionalism essay assignment; Long essay; Lesson plans
	TP Journals	5x copies of Teaching Practice Journals 1 and 2
	Academic results	5x copies of academic results
Interviews	Lera, Zara, Kagiso, Thabo and Zinzi	5x Literacy History and Feedback Interviews
Observation x 2 lectures	Field notes	Curriculum Theory and Pedagogy lectures x 2
Fieldnotes	2x Notebooks	Book 1 One-to-one AcLits sessions: Book 2 – Workshops, Site visits and 2x Curriculum lecture observations

Appendix F: Figure 5.3: Preparatory workshop: Classroom Discourse essay task analysis (pg. 124)

The figure consists of four separate slide boxes arranged in a 2x2 grid. Each slide has a purple border and a purple box at the bottom containing the slide number. Slide 1 (top-left) is titled 'Question analysis' and includes a sub-header 'Understanding the question is key to providing an answer' and a list of three components: 'subject matter', 'Instructions', and 'constraints'. A green line connects 'subject matter' to 'talk in the classroom' in the main text below. Slide 2 (top-right) is titled 'Question analysis: Part 1' and lists various analysis points such as context, classroom interaction patterns, and teacher/learner talk percentages. Slide 3 (bottom-left) is titled 'Question analysis: Part 2' and provides instructions on providing concrete examples of reading and writing activities. Slide 4 (bottom-right) is titled 'Question analysis: Assessment criteria' and lists five criteria for marking the assignment, including language/literacy focus, understanding of classroom talk, and awareness of scaffolding.

Slide 1: Question analysis

Understanding the question is key to providing an answer

A question has three components:

subject matter Instructions constraints

- “This assignment is a two-part essay. Part 1 focuses on your use of **talk in the classroom**. Part two focuses on **literacy development**. Please use the headings Part 1 and Part 2 in your essay”

Slide 1

Slide 2: Question analysis: Part 1

- The context of the **recording** (which part of the lesson, the grade, the topic etc.)
- Patterns of **classroom interaction** (**Initiation-response feedback**, the grade, the topic etc.)
- % of teacher talk, % of learner talk
- **Types and functions of the questions you ask**
- Participation of learners, types of answers
- The nature of your feedback
- Any significant pauses, silences
- Any other kind of significant features of your talk, e.g. tone, vocabulary etc.

Slide 2

Slide 3: Question analysis: Part 2

- “Provide **two concrete examples** of how you integrated or could integrate **reading and writing activities into the lesson** you analysed and how you would scaffold such activities so as to purposefully develop learner’s reading and writing competence and improve learning”

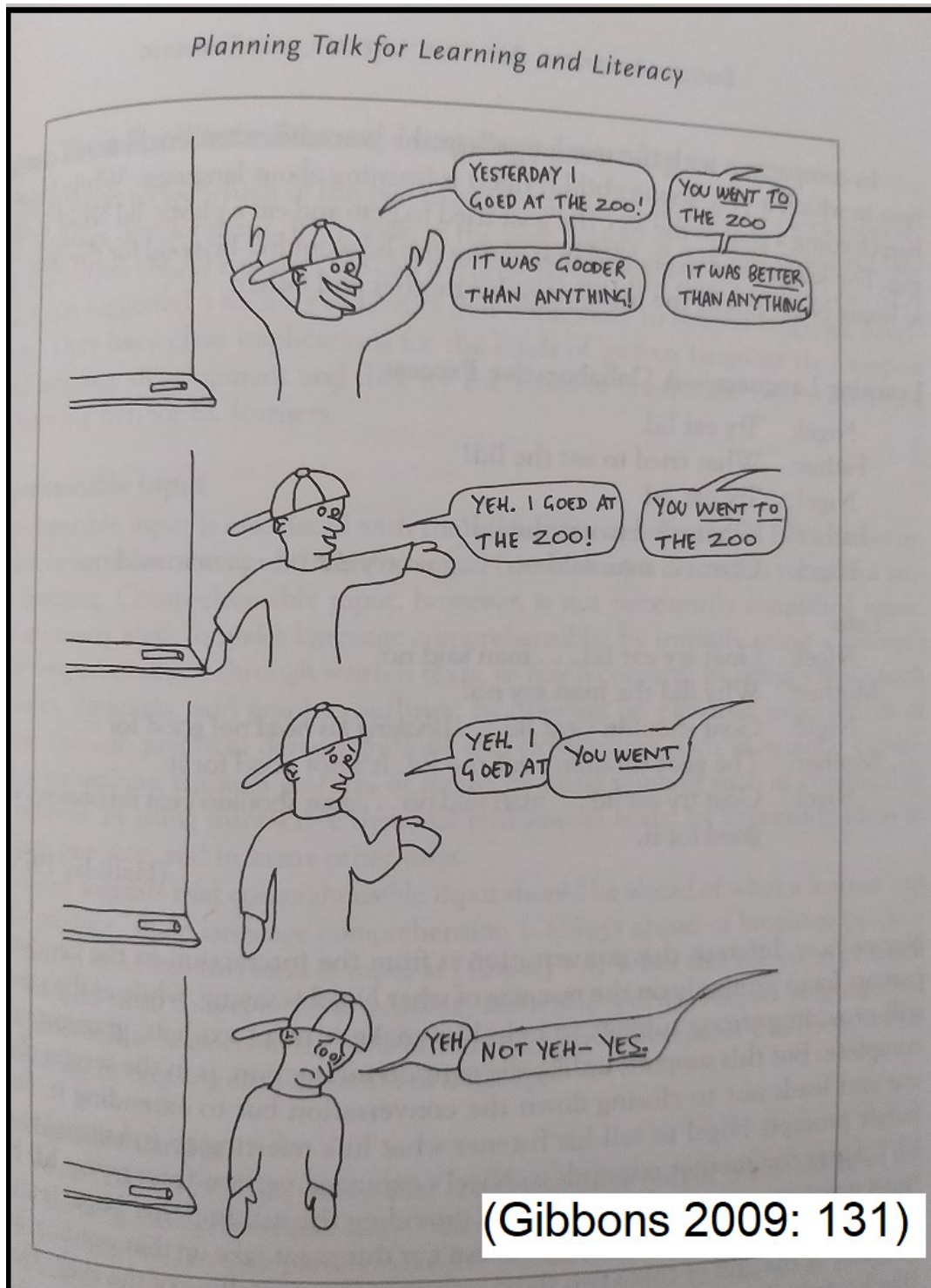
Slide 3

Slide 4: Question analysis: Assessment criteria

- Your language and literacy assignment will be marked on the basis of:
- Understanding of how **classroom talk** works to facilitate/not facilitate learning (50%)
- Description of **two, subject-specific reading and writing tasks** (10%)
- Awareness of how reading and writing can be used to **scaffold learning in your subject area** (30%)
- Clarity, coherence and focus (10%)

Slide 4

Appendix G: Larger version of Gibbons (2009: 131) seen in Figure 5.4: Scaffolding academic reading, introductory discussion (pg. 127)



Appendix H: Figure 5.7. A section of the transcript analysis framework (pg.132)

	Patterns of classroom interaction	Source	Analyse	Interpret, evaluate and	Example from transcript
1.	Percentage of teacher talk		Count the turns where the teacher speaks Determine the length/ number of words		Teacher speaks/turns: No of words per turn:
1	Percentage of learner talk		Count the turns the learner has Determine the length/ number of words		No of words total Learner speaks/turns: No of words per turn: No of words total:
2.	Teacher questions		Count the questions		
3.	Learner questions		Count the questions	2	
4.	Types of teacher questions: Echoic: Comprehension checks Clarification requests Confirmation requests	Hendricks based on Long and Sato's (1983) framework			

Appendix I: Draft essay writing frame

Introduction:

Contains the topic, context and aim or thesis statement/ stance, theoretical framework, theoretical concepts for example:

In this essay I analysed a transcript of to examine.....and which I interpret as..... to argue my case thatand persuade you that....

Body- Paragraph 1

Main idea

Body- Paragraph 2

Main idea

Body- Paragraph 3

Main idea

Body- Paragraph 4

Main idea

Conclusion

Restate your argument and your main ideas and what you've tried to achieve.

Appendix J: Figure 5.8. Intertextuality in Lera's Classroom Discourse draft essay (pg. 134). See above for Appendix I for a larger image of the Draft Essay Writing frame. See below for Appendix K for a larger image of Gibbons (2009: 136) and Appendix L for a larger version of Lera's Classroom Discourse essay draft.

The diagram illustrates the intertextuality between three documents:

- Classroom Transcript (Left):** Contains lines 32-38 of a lesson. Line 32: "Teacher: You are giving me the similarities, so yes even in base we have bases that are corrosive." Line 33: "we also have those bases that are dangerous, that we can't feel or we can't taste. So now we have" Line 34: "litmus paper, litmus paper is the one that is used to distinguish between. To distinguish a substance" Line 35: "whether is an acid or a base. So now in the acid it turns the blue litmus red, what do you think in" Line 36: "base does?" Line 37: "Learners: Turns red litmus blue." Line 38: "Teacher: Turns red litmus blue [Writing on the board]." Handwritten notes include "in the transcript" and "feedback/".
- Essay Writing Frame (Right):** A template for an essay. It includes sections for "Introduction:", "Body-Paragraph 1", and "Body-Paragraph 2", each with a "Main idea" box. A box labeled "Essay writing frame" is at the bottom right.
- Gibbons (2009: 136) (Bottom Right):** A text titled "Traditional Classroom Talk" describing the Initiation-Response-Evaluation (IRE) pattern. It lists three moves: Move 1 (Initiation) by the teacher, Move 2 (Response) by the student, and Move 3 (Feedback/Evaluation) by the teacher. A box labeled "Gibbons (2009: 136)" is at the bottom right.

Handwritten annotations and arrows connect the documents:

- A box labeled "BODY-PARAGRAPH: MAIN IDEA 1" with a "1" is connected by a blue arrow to the "Main idea" box in "Body-Paragraph 1" of the essay frame.
- A box labeled "Pattern of the classroom interaction, the type of the interaction is mostly initiation-response-evaluation (IRE), it typically consists of three 'moves' (Gibbons, 2009:136) For an example in line 32 - 38:" with a "2" is connected by a blue arrow to the "Main idea" box in "Body-Paragraph 1" of the essay frame.
- A box labeled "Move 1(Initiation)", "Move 2(Response)", and "Move 3(Evaluation)" with a "3" is connected by a blue arrow to the "Main idea" box in "Body-Paragraph 2" of the essay frame.
- A box labeled "Move 1 (Initiation)", "Move 2 (Response)", and "Move 3 (Feedback/Evaluation)" with a "6" is connected by a blue arrow to the "Main idea" box in "Body-Paragraph 2" of the essay frame.
- A box labeled "32. Teacher: You are giving me the similarities, so yes even in base we have bases that are corrosive." with a "5" is connected by a blue arrow to the "Main idea" box in "Body-Paragraph 2" of the essay frame.
- A box labeled "36. base does?" with a "5" is connected by a blue arrow to the "Main idea" box in "Body-Paragraph 2" of the essay frame.
- A box labeled "37. Learners: Turns red litmus blue." with a "5" is connected by a blue arrow to the "Main idea" box in "Body-Paragraph 2" of the essay frame.
- A box labeled "38. Teacher: Turns red litmus blue [Writing on the board]." with a "5" is connected by a blue arrow to the "Main idea" box in "Body-Paragraph 2" of the essay frame.

Appendix K, larger image of Gibbons (2009: 136). Part of Appendix J: Figure 5.8.
Draft of Lera's Classroom Discourse essay above (pg. 134).

Each of these is discussed below, after we first look at how it has traditionally been conducted.

Traditional Classroom Talk

There is one very common and pervasive pattern of teacher-student interaction that is used the world over and has been observed by many language researchers for over 140 years (Hoetker and Ahlbrand 1969; Mehan 1979; Van Lier 1996). Known as initiation-response-feedback (or initiation-response-evaluation) (IRF/IRE), it typically consists of three "moves": (1) the teacher initiates a question (a "display" question to which he or she already knows the answer), (2) a student responds to the question, and (3) the teacher gives positive or negative feedback on the student's answer. Here is an example:

Move 1 (Initiation)	Teacher: What are these called?
Move 2 (Response)	Student: Compasses.
Move 3 (Feedback/Evaluation)	Teacher: A pair of compasses, good.

The IRF exchange may serve a number of useful purposes. It enables the teacher to quickly check the students' current knowledge or understanding or demonstrate a logical sequence of steps (such as talking students through the solving of a math problem). Well-planned IRF questions may also probe students' thinking at all levels.

Appendix L: Figure 5.8. Larger version of extract from Lera's Classroom Discourse draft essay

Lera's draft Classroom Discourse essay

BODY-PARAGRAPHY: MAIN IDEA 1 |

Pattern of the classroom interaction, the type of the interaction is mostly initiation-response-evaluation (IRE), it typically consists of three "moves" (Gibbor, 2009:136). For an example in lines 32 – 38:

32. Teacher: You are giving me the similarities, so yes even in base we have bases that are corrosive.
33. we also have those bases that are dangerous, that we can't feel or we can't taste. So now we have
34. litmus paper, litmus paper is the one that is used to distinguish between. To distinguish a substance
35. whether is an acid or a base. So now in the acid it turns the blue litmus red, what do you think in
36. base does? Move 1(Initiation)

37. Learners: Turns red litmus blue. Move 2(Response)
Feedback

38. Teacher: Turns red litmus blue [Writing on the board]. Move 3(Evaluation)
Feedback/
in the transcript
initiation-response-evaluation (IRE)

Appendix M: Larger version of extract from Lera's final Classroom Discourse essay

...checking the learner's prior-knowledge because the learners did the acids and bases in grade 7 but not grade 8, they are in grade 9 now. It is a mixed classroom with coloureds and xhosa learners speaking English but sometimes their own home languages, with boys and girls at a secondary school at 11:50am in the morning. The classroom interaction takes place between the teacher and the three learners plus the whole class of 37 learners. They are sitting in pairs of 3 rows, on the board is a list of acids properties ✓

Pattern of the classroom interaction, the type of the interaction is mostly initiation-response-feedback/evaluation (IRF/E), it typically consists of three "moves" Gibbon (2009:136) the teacher initiates a question (a "display" question to which he or she already knows the answer), a learner responds to the question and the teacher gives positive or negative feedback on the learner's answer. ✓ From my impression that is how most of the dialogue in the transcript is like, an initiation-response-feedback/evaluation (IRF/E) exchange. The IRF/E nature of the interaction can be seen in the percentage of teacher and learner talk, the total number of the teacher words is 504, the number of words per turn is 20 in total, the teacher speaks 94% and the average words per turn is 25. ✓ While the total number of the learner words is 33, the number of words per turn is 21 in total, the learner speaks 6% and the average words per turn is 1.57. This shows the teacher does most of the talking using a lot more words than the learners, which is typical of an IRF/E pattern of interaction. ✓

We can also see the IRF/E pattern reflected in the number of types of questions the teacher asks a learner responses, teacher questions count is 14. Teacher questions were a mix of open and closed ended questions, open ended questions are questions to which the teacher knows the answer and where there is

Extract from Lera's final Classroom Discourse Essay

Lera's TP1 Lesson Plan

LESSON PLAN: PGCE		
<u>Name of student:</u> Lera		<u>Subject :</u> Natural sciences
<u>Date:</u> 29 April 2016	<u>Duration of lesson:</u> 45 minutes	<u>Grade:</u>9
<u>Name of school:</u> High School		<u>Number of learners in the class:</u> 37 learners
<u>Topic:</u> The general reactions of non-metals with oxygen		
<p><u>Lesson objectives:</u></p> <p>Learner should be able to:</p> <ul style="list-style-type: none"> • Name compounds • Write equation in: <ul style="list-style-type: none"> ➤ <i>Word equation</i> ➤ <i>Chemical equation (symbolic equation)</i> ➤ <i>Picture equation</i> • Identify the impact of chemical reaction on the environment. 		
<p><u>Learners' prior knowledge:</u></p> <p>Force, Reactants, Atoms, Products, Form, Properties, Break.</p> <ul style="list-style-type: none"> • In a chemical reaction, the substances that react with each other are called _____ and the substances that are produced are called _____. The substances that are produced have new and different <u>chemical</u> _____. In reactions, they _____ are rearranged. A chemical bond is a _____ that holds _____ together. In a reaction, the chemical bonds in reactants _____ and new bonds _____ in the products. 		
<p><u>Questions:</u></p> <p><u>Key questions:</u></p> <ol style="list-style-type: none"> 1. What happens when a non-metal and oxygen react? 2. What is the product called? 3. How should we write equations for the reactions of carbon and sulphur with oxygen? 4. Why do we have to burn it first to see the reaction between non-metal and oxygen? 5. What does the reactivity of the different non-metals tell us about the periodic table? 6. What are the differences between metals oxides and non- metals oxides. 		
<p><u>Formative Assessment:</u></p> <ul style="list-style-type: none"> • Activity 1(carbon reacting oxygen) • Activity 2 (<u>sulfur</u> reacting with oxygen) 		

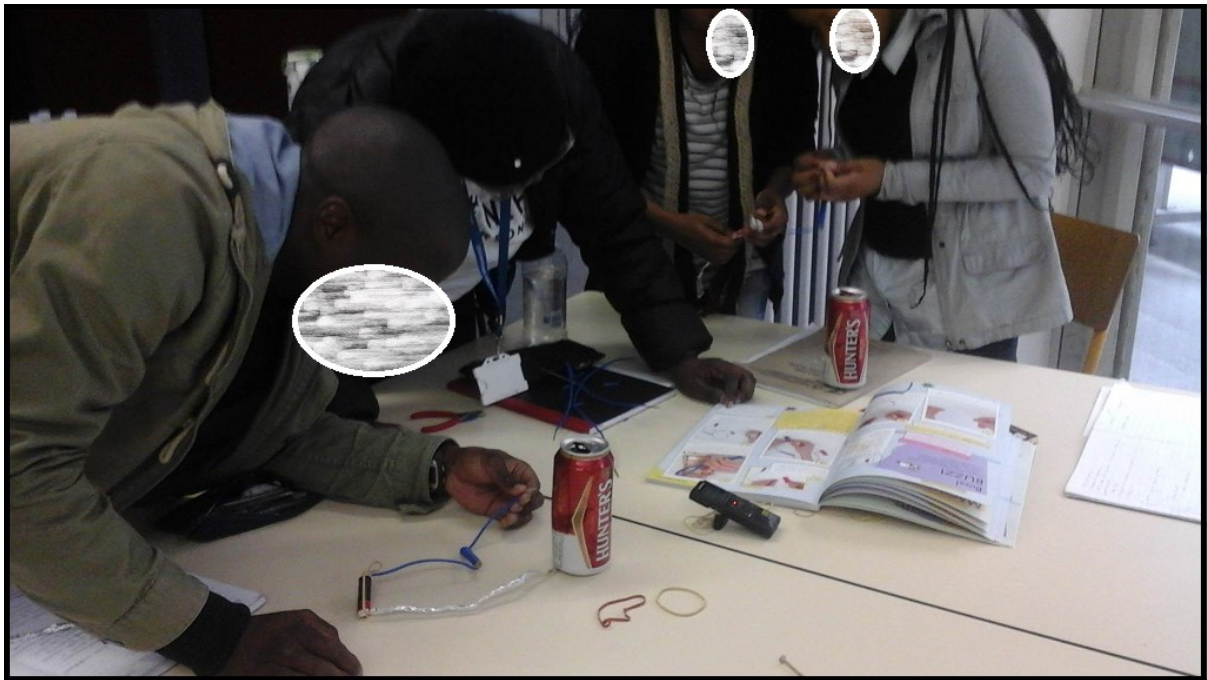
Appendix O: Larger version of Figure 5.11., Page 2 (pg.153)

<p>Extended activities:</p> <ul style="list-style-type: none"> • Extra activity including both examples of non-metal carbon and <u>sulfur</u> reacting with oxygen. <p>Learners need to explain some main concepts such as preservative and non-renewable energy resource.</p>
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<p>Teaching & learning activities</p>
<p>Introduction</p> <ul style="list-style-type: none"> • We are to investigate the combustion of different non-metals with oxygen. • Where we find non-metals on the period table. • Write the equation for the reactions of carbon and sulphur with oxygen and their products. • Learners use textbooks to identify non-metals on the Periodic Table.
<p>Lesson development</p> <ul style="list-style-type: none"> • Explain process of non-metals reacting with oxygen. • Give examples of non-metals carbon and <u>sulfur</u> reacting with oxygen. • Give activities to check their understanding. • Summary concept map.
<p>Conclusion</p> <p>Summary: Concept Map.</p>

Instructional strategies (tick appropriate block/s)		Resources (tick appropriate block/s)			
Direct instruction	Inquiry		Textbooks		Newspapers
Teacher presentation & explanation	Investigation		Chalkboard		Television
Question & answer	Problem-solving		Charts		Slide presentation
Class discussion	Other		Hand outs		Video
Group discussion	Practical work		Pictures		Audio recordings
Practice			OHP		Data projector


Appendix P: Figure 6.4: Activity 2 of 5, multimodal and experiential activities in science (pg. 186)





MAGIC magnet

This experiment shows that electricity can be used to make a magnet that will pick up small metal objects. The magnet can be switched on and off.



15 min Help needed Tricky

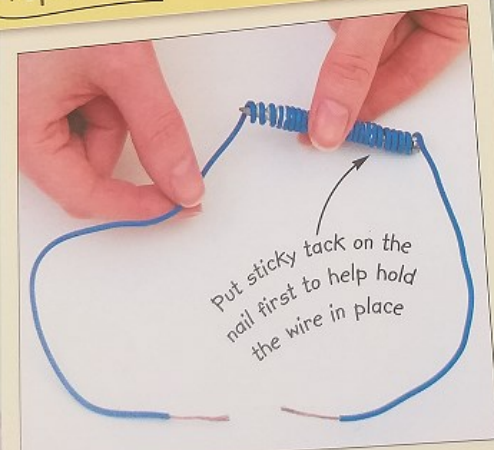
You will need

- work surface
- large steel nail (or screw)
- thin insulated electrical wire, 1 m
- 1.5V AA battery
- sticky tack
- paper clips
- sticky tape
- wire strippers or a knife
- short, thick elastic band

Preparation: Strip some wire

See page 21 for how to strip wire. You'll need two pieces of wire about one metre long.

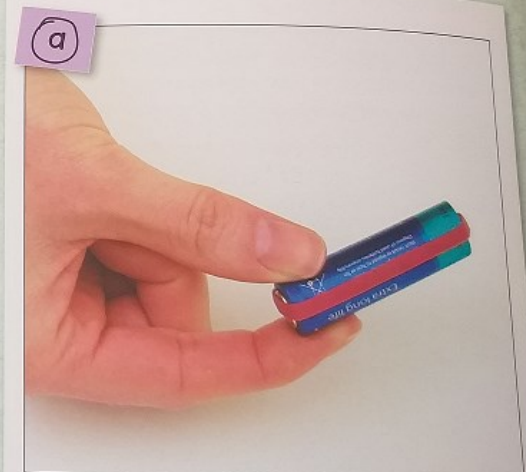
Preparation: Make an electromagnet




Put sticky tack on the nail first to help hold the wire in place

Starting about 10 cm from one end of the wire, wrap the wire tightly around the length of the nail up to the nail's head.

a



Put a small elastic band lengthways around the battery so that it goes over both metal terminals.



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Appendix R: Figure 6.8: Instructions on how to create an electromagnet - Kelly (2014), Page 21. (pg. 187)

ELECTRICITY

(b)

Make sure the stripped wire touches the battery terminals

Put each of the stripped ends of the wire from the electromagnet under the elastic band at each end of the battery.

(c)

Put a few paper clips on the work surface. Hold the electromagnet with the pointy end of the nail close to the paper clips. Watch what happens to the paper clips. Don't leave the wire connected to the battery for more than a few seconds at a time, otherwise the battery will quickly run down and become hot.

Q Can electricity pick up a paper clip?

A Yes, the electricity turns the nail or screw into an electromagnet. The electromagnet pulls on the paper clips because they are made of steel. When you take the wire away from the battery, the electricity stops flowing, so the electromagnet stops working and the paper clips fall back to the table.

(d)

After a few seconds, take one of the wires away from the battery. What happens to the paper clips now?

Also try...

Make an electromagnet using twice as much wire. Adding another battery in series with the first, using another piece of foil to connect the two batteries end to end (make sure both are the same way round). Adding more wire and more batteries should make the electromagnet stronger. Can you pick up more paper clips now?

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